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An Address
ON
CONSCIOUSNESS.

Being the Presidential Address to the Section of Psychiatry, Royal Society of Medicine, delivered on Nov. 11th, 1924,

BY CHARLES S. MYERS, C.B.E., M.D. CAMB., Sc.D., F.R.S.,
DIRECTOR, NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY.

LITTLE more than a generation ago, at one of the largest London hospitals, its most distinguished physician once observed to one of his clerks fresh from undergraduate Cambridge: "The sooner, my dear fellow, you forget your physiology, the better it will be for your medicine." Such advice would hardly be ventured to-day. Nor, I think, would a medical student be now told by any of ourselves: "The sooner you forget your psychology, the better it will be for your psychiatry," not perhaps because psychology has proved now more useful in furnishing an applied science than physiology proved then, but because at present, with rare exceptions, the medical student is afforded no opportunity of learning psychology, but has to pick up a smattering of it as best he can when he comes to approach the problems of psychological medicine.

If for this reason alone, it may be not altogether a disadvantage for the Chair of the Section of Psychiatry of the Royal Society of Medicine to be held from time to time by a psychologist whose excursions into psycho-pathology are few and narrow—in my own case limited to the years of the recent war. I need hardly say how honoured such a one feels with this invitation, and what a responsibility it places on him when he endeavours to present certain views and aspects, derived largely from a study of *pure* psychology, which he hopes may prove interesting and suggestive to those working in the applied field of *medical* psychology.

CONCEPTIONS OF CONSCIOUSNESS.

In this address I propose to review our conceptions of consciousness.

Let us first consider its main forms or modes. These have for two generations past been classified as cognitive, conative, and affective; the cognitive consciousness dealing with the experiences of sensing, perceiving, apprehending, imaging, recollecting, imagining, and other kinds of knowing and thinking; the conative consciousness with the experiences of acting or striving or willing towards a more or less definite end; and the affective consciousness with its experiences of pleasure and displeasure. The inadequacy of this classification has been increasingly, if but tacitly, felt. Thus, the affective consciousness deals with far more than affective tone—mere pleasure and displeasure. (Indeed, as I shall presently indicate, I hesitate to regard them as primitive.) It covers every kind of feeling, not merely emotional, but also intellectual—feelings of familiarity, certainty, doubt, relationship, and so forth. It covers feelings relating to the *acts* of the self, as well as to the *condition* of the self.

Moreover, when we are engaged in apprehending or recollecting any situation, it is obvious that we must inevitably employ the conative, as well as the cognitive, mode of consciousness as above distinguished. Indeed, knowing becomes a form of doing. Hence, attempts have been made to classify the modes of consciousness not on these older lines, but on the basis of a distinction between doing and what is done, between process and product—i.e., between act and content—e.g., between the act of perceiving and what is perceived, the act of remembering and what is remembered, the act of deliberating or deciding, and what is decided on or deliberated about. According to this scheme, consciousness is classifiable along the lines of self-activity and the outcome of self-activity. But even this appears unsatisfactory, because, in the first place, it leaves the affective consciousness out of consideration and, in the second place, it implies that whatever product of consciousness appears to be "presented" to the self is really a product of self-activity.

Two Classes of Feelings.

In relation to the self and the self's activity feelings appear to me divisible into two classes—the "ipsi-affective," attached to the self, and the "actu-affective," attached to the self's acts. Thus, in the state of *strain* or enhanced vitality produced by a favourable environment, the ipsi-affect is a feeling of "exhilaration" (evolving into "gladness"), the actu-affect is one of "interest." In the state of strain produced, on the other hand, by an unfavourable environment, the ipsi-affect is a feeling of "uneasiness" (evolving into "distress"), the actu-affect is one of "repugnance." Again, in the state of *rest* produced by a favourable environment, the ipsi-affect is a feeling of "ease" (evolving into "bliss"), the actu-affect is one of "contentment"; while, in the state of rest or reduced vitality produced by an unfavourable environment, the ipsi-affect is a feeling of "depression" (evolving into "sadness"), the actu-affect is one of "apathy."

In the second place, is it reasonable to suppose that when we suddenly hail a friend or are struck with an idea, the corresponding percept or thought is *consequent on* an act of the self? Is it not more in accordance with common sense to suppose that such a percept or thought is a "presentation" to the self, rather than that it is produced by the self? Are there not occurring a number of acts that yield conscious products—acts which are independent of the self? Are not the acts of sensing and the spontaneous revival of past experiences examples of these, and are not their mental products—sensations, say of blue or noise, and memories, say of a forgotten duty—*received* by instead of being *created* by the self? To this it may be replied that such acts and products are at first mental but not conscious, and that the only consciousness which is possible for us is the self's consciousness—the consciousness arising from the activity of that highest unitary system which we call the "ego." Blue is not a sensation until the self attends to it. Before it so attends, something is presented—some mental content produced by the mental act of sensing, which involves not self-activity, but the activity of some lower mental function—mental but not conscious.

The attempt may be made to evade this difficulty by supposing that originally—e.g., on the first occasion that the sensation was ever experienced, the self was consciously engaged in the act of producing it, but that in later life the act had become so habitual that, self-activity becoming no longer involved, the act had been relegated to lower nervous levels.

The Nervous Paths.

To this it may be rejoined that there is no decisive evidence that, as with practice an acquired act becomes a habit, the nervous paths are essentially different (save in so far as concomitant redundant acts are abandoned) from those which were employed during the acquisition of that habit. It may well be that the presence or absence of the consciousness of self-activity is dependent on the degree of resistance which the nervous processes encounter, and that practice wears down this resistance, canalising or facilitating one and the same path as the unpractised conscious act gradually becomes a habitual one. But if consciousness is dependent on the extent of such highest resistance, we have to remember, on the other hand, that when that resistance is excessive—owing to the harmful effect of the experience on the organism—consciousness is again abolished. True, the resistance or inhibition against entry into consciousness may appear to be here of another kind—due to incompatibility instead of to novelty. But elsewhere in mental life we have at least two other seeming examples of an intermediate range, on either

side of which the appearance of one and the same function is favoured.

Thus, for the avoidance of suggestion, the field of consciousness must not be too diffuse, nor must it, on the other hand, be too restricted. The condition of hypnotic suggestion, as is well known, is induced by fixation of attention within narrow limits—gazing at a point of light, thinking concentratedly of going to sleep, &c. But the suggestibility of a person is also increased in the opposite condition of reverie, brought about by asking the subject to relax his attention and to "think of nothing." Somehow each of these antagonistic states leads apparently to the same result—the abolition of self-control, and the acceptance of ideas which under normal conditions would be rejected.

Emotional Experiences.

The second example which I have in mind relates to the development of emotional experience. There is good reason to suppose that one of the principal factors determining our actual experience of an emotion is the degree of resistance which prevents its expression in bodily activity. If that resistance be not great, if, say, a dangerous situation is fairly readily soluble by the reaction of flight, the emotion, of fear, may not be felt. But when great resistance or conflict is offered to such expression, the emotion is at once developed. A similar standpoint has been taken by some, e.g., Prideaux, who have carried out observations on the psycho-galvanic reaction. Within certain limits this reaction is more intense when the emotion with which it is associated is less felt. To take the extreme case of the idiot, he gives more free expression to an emotional situation and develops the psycho-galvanic response to it more strongly than a person of normal intelligence, but there is good reason to suppose that he *feels* the emotion less intensely. A certain resistance or conflict in regard to expression—what Drever calls a condition of "feeling tension"—seems essential before emotion can occur.[1] But Drever believes that emotional feeling is favoured not only "when there is some check, or at least pause, in the attainment of the end or satisfaction of the impulse," but also "when the end" so far from being checked, "is attained so quickly or abundantly that action cannot keep pace with feeling."

DEVELOPMENT OF CONSCIOUSNESS.

We may well wonder how excess or defect of a given condition may lead to the same result, but an explanation in evolutionary terms appears worthy of consideration. Along these lines we may conjecture that it is pre-eminently from the *moderate* condition that new effects are developed, the more primitive effects persisting in *extreme* conditions that fall far short, or are far in excess, of the moderate. On this supposition, extreme suggestibility is a primitive mental characteristic, which has gradually become reduced in the course of evolution under conditions of moderately restricted attention. By the same reasoning, readiness to experience emotion is a characteristic of the *primitive* mind. In the higher organism it persists when its end is extravagantly attained or when there is considerable check in the attainment of its end; on the other hand, it becomes reduced or abolished when that end is attained without undue speed and fullness, on the one hand, and without much check or conflict on the other.

So also in regard to consciousness and resistance. The primitive condition of the living organism is such that its mental activity is largely unconscious. Conscious activity has been differentiated from it. From this it must not be inferred that the beginning of conscious life is to be sought in reflex action; the reflex act is rather the decadent relic of a primordial mental activity which preceded the development of conscious activity. Mental activity is prior to habitual and reflex action; the mechanical is an abstraction from the truly mental.

[1] Instinct in Man, second edition, 1921, p. 272.

The distinction we have drawn between act and content, between process and product, is characteristic of all vital activity. We can separate the act or the process of secreting from the secretion or the product of that process. Whether the level of the nervous system be high or low, whether or not there be attendant consciousness of the act or of the content, we can speak of the process on the one hand, and of the product on the other, and we may suppose that every such act involves mechanical work and hence the expenditure of force, and that with every act energy is expended, involving a degradation manifest in the form of electricity, heat, &c. But vital activity is characterised by anabolic as well as by katabolic processes—by creative as well as by destructive changes. Furthermore, these creative changes are characterised by some degree of purposiveness; they do not occur merely by blind chance. Biologists are coming generally to recognise the insufficiency of purely accidental variations as an explanation of the origin of species. Hence in addition to the explosive force of mere acts, we have to consider the more continuous setting or direction in which those acts take place. It is the complexity and prominence of this directive setting that pre-eminently distinguishes the nervous from all other tissues of the living organism, and that above all distinguishes the conscious from the unconscious mental life of that organism. And as direction depends on pre-existing dirigibility, direction itself demands plasticity, in contrast to fixity, of reaction.

Environmental Stimuli.

It is fairly obvious that if only one response to a given stimulus were possible, consciousness would be of little value and would hardly have arisen. Its utility arises when alternative reactions are possible, when some sort of choice has to be made between them, for the benefit of the organism as a whole, or when, as in an important emotional situation, it is essential that no other conflicting reaction be made to another simultaneous experience. Consciousness is thus a selector of alternative *responses*.

It is also a selector of alternative *stimuli*. If, owing to uniformity of external conditions or to the immobility of the organism, the organism were unable to alter its relation to the environment, consciousness again would hardly have arisen. One of its most important functions is to maintain an environment that is favourable and to avoid one that is unfavourable, whether that environment be a physical one, say in the form of external nourishment or temperature, or a mental one, say in the form of appropriate or noxious thoughts.

But in order to act effectively as the selector of alternative reactions and of its environment, relatively small variations in the environment must differ in the reactions evoked. If two slightly different stimuli gave identically the same response, no purpose would be served by our being conscious of any difference between them.

These, then, are the main functions and conditions of consciousness; and in realising them we realise still more clearly how all consciousness must form part of "self-consciousness," by which I mean not necessarily the knowledge, the awareness of the self, but the involvement of that highest integration of activities which is known as the self within the indivisible, organic, individual organism. Consciousness thus functions as the coördinator of all the past and present experiences of the organisms so as to give direction to the selection of its future activities and environment, in compliance with the organism's sanctions and ends.

The Complexity of Primitive Experiences.

I spoke just now of the reflex act as a decadent form of mental activity. It has been too common an error to regard the simple in life as prior to the complex. We are apt to forget that the most lowly unicellular organism eats, breathes, secretes, excretes, reproduces, and exhibits irritability, contractility, and even apparent choice and ability to learn by

experience, whereas in the higher organism such functions are specialised in its different tissues. The vague complex, in other words, precedes the differentiated simple. So it is largely in the life of consciousness. Simple sensations are not the first experiences. The first post-natal or even pre-natal experiences are vague affections of the self, or of what will come in time to constitute the self, as later it becomes differentiated from external situations, and as later external objects come in turn to be differentiated from external situations. At quite an early period many of the infants' experiences, especially the visual, become projected first as situations, then as objects, instead of being as at first little more than affections, so to speak, of the self. It is only gradually that the separate, simple sensations, say of whiteness, softness, and sweetness, are differentiated from these objects. But these sensations, we must remember, are not wholly projected. Red, for example, clearly resides in the object, but pain lies in ourselves, while such sensations as those of temperature and taste occupy a half-way position.

The observations of Head and Gordon Holmes in conditions of thalamo-cortical interference indicate that such projection may be lost in lesions of such sort. A prick may be no longer projected as such, but described by the self as a characteristic change in, as an affection of, itself. Indeed, under normal conditions the less projected the sensation, the more it approximates to an affective modification of the self. Titchener is doubtless right in believing that sensations (hence cognitive states in general) have become evolved out of feelings. I believe that this power of projection, the ability of the self to regard its own change of states as something outside itself, is of far greater importance than is generally supposed. It surely culminates in the self looking down not merely on external independent objects, but also on its own *other* selves who come to be regarded as acting under its jurisdiction. Thus the most consummate actor is said to be he who, though he feels the emotions he portrays, experiences them in such a way that it is as if he were looking down upon another self that actually feels them. Something of the same effect, though doubtless of different causation, is observable in that transient, slightly pathological condition known as "depersonalisation," common to large numbers of us, wherein the external environment appears for the moment as strange, and we seem to be looking on another instead of on ourself as really experiencing it and acting on it. It occurs still more strikingly, of course, in the more definitely morbid condition of loss of reality. Similar processes may account for that alternation of personalities behind which there is a continuous personality that knows the acts and experiences of the others. The well-known limits of post-hypnotic suggestibility indicate the same preservation of a higher, dominant, however dormant self. The integrity, the intactness of this supreme self may prove, I even suggest, to be the future criterion between so-called psycho-neurotic and psychotic conditions.

THE BUILDING UP OF CONSCIOUSNESS.

While the simple is, so to speak, distilled from the wider complex, nevertheless synthesis goes on, as well as analysis; and many instances will easily occur to one where new experiences are dependent on an integration of stimuli or of more primitive experiences. On the one hand, where a reflex is inherited or a habit is acquired, consciousness is useless, since the stimulus inevitably releases one and only one reaction. On the other hand, where an instinct appears, consciousness (let us call it instinct feeling) is essential, because intelligence can be brought to bear so as to improve by growing experience the imperfect instinctive reaction to the situation. Where emotion enters, the number of alternative conflicting instinctive reactions to a stimulus has become manifold—e.g., in the case of fear, flight, rigidity, flaccid palsy, crying, clinging to the parent, fighting at bay; and their respective *instinctive* feelings become integrated about a common object on this higher plane to create *emotional* feeling. Where sentiment enters, a number of alternative conflicting emotional feelings have become integrated about a common idea, and a new *sentiment*-feeling—e.g., that of love or hate—emerges.

The importance of the integration of such alternative conflicting mental states as the creator of new ones can hardly be over-estimated. Rivers has from the ethnological standpoint attributed new cultures to the clash of immigrant with indigenous ones; and it seems possible that the creations of the inspired genius may be the unconscious product of similar conflict.

OUR KNOWLEDGE OF LIVING SUBSTANCE.

Let us now consider what we know of the activity of living substance. It exists in two forms: (1) intensive and momentary, and (2) moderate and prolonged. The contractions of striated muscle illustrate intensive and momentary vital activity; the reactions of heat and cold spots offer another example. There appears to occur a firing off of already prepared, explosive material, followed fairly rapidly by fatigue. The contractions of unstriated muscle illustrate the more moderate and prolonged form of activity, where tone and long-continued adaptation seem to replace the explosive force and consequent fatigue characteristic of the first-mentioned form. Again, the tone and the posture in striated muscle, both of them moderate, long-continued, and relatively indefatigable, illustrate the same form of activity. They involve a directive balance, a delicate nervous coördination between two opposing muscles, flexor and extensor. The sensations of warmth and coolness depend on a similar mechanism. In contrast to the *spot* system subserving heat and cold, this *diffuse* spot-less sensibility involves a close coördination between the mechanisms for warmth and coolness, as is exemplified first in the set state of balance that occurs in the form of "sensory adaptation," a kind of stationary posture, as it seems to me, between the opposing mechanisms of warmth and coolness, when the skin is exposed for some time to a warm or a cool environment, and secondly, in the action resulting from disturbance of that balance that occurs in the form "sensory contrast," when that environment is suddenly replaced, say by a neutral one. Such phenomena as adaptation and contrast do not occur in the spot system; there we have merely sudden, ungraded reaction and fatigue.

Thus we come to contrast powerful energetic explosive acts, followed by a loss of material available for the allowance of further acts, on the one hand, and the more moderate, more graded activities on the other hand, involving reciprocal inhibition and facilitation, and finally yielding a long-continued set or state of adaptation or attitude.

Acts and Attitude of Mental Activity.

May we not usefully distinguish these two forms throughout mental activity, even up to the highest conscious processes? In other words, have we not, on the one hand, the momentary, relatively fatigable acts of apprehension, recall, decision—of *expression* in general, and on the other the long-continued, relatively persistent sets or attitudes—mental *postures*, if you like, in which those varying acts take place? On the one side, we have the more mechanical acts; on the other, the more directive attitudes—though, of course, the acts themselves are far from being devoid of a certain coördination and direction. We recognise thus in mental activity a more mechanical factor and a more directive factor, each involving the expenditure of work; but whereas we have some conceivable idea of the nature of the former, we have none whatever of the nature of the latter.

We might well pause, did time permit, to consider what is the effect of profound morbid changes in attitude on the consciousness of acts. Two obvious and opposite directions of change at once present themselves. At the one extreme, attitude is unusually persistent and unvaried. According to the old diction, Semper idem sentire ac non sentire idem est. At the other, attitude is to all intents and purposes

non-existent; the mental acts follow one another over a vast field whose meaning is changing with bewildering speed. So far as consciousness is concerned, have we not here yet another of the illustrations already given in this paper that "extremes meet"?

All that we can say of any higher mental attitude is that it is closely associated with interest—innate (i.e., immediate) or acquired (i.e., indirect). Hence has arisen the wider notion, extended not only to our higher attitudes but also to our higher acts, that they are dependent on affects, whether the affects partake of those moderate, more continuous forms or attitudes known as interests and moods, or of the more powerful, less lasting forms or acts known as feelings of emotion and of sentiment. Hence, too, has arisen the notion that there is a common fund of mental energy of affective origin, a single libido which can be drained off now into one, now into another channel of mental and motor activity in such a way that what one channel gains involves a corresponding loss among other channels. We reach, indeed, Spearman's conception of a central factor common in various degrees to all forms of intellectual activity.

Spearman does not attempt to define the nature of this general or central factor. He calls it "*g*," but it must not be identified, as is so frequently done, with our notion of "general intelligence." Whatever it is, it is not this. Spearman admits that he is quite unable to express "*g*" in psychological terms. Its presence and its amount are determined by mathematical principles based on the inter-correlation of the various intellectual activities with one another. He prefers to regard "*g*" as an unknown physiological factor, and he admits Godfrey Thomson's criticism that the very existence of "*g*" is only one of alternative conclusions that may be drawn from the mathematical studies of correlation which he employs to establish and to measure it.

THE AFFECTIVE CONSCIOUSNESS.

The early neglect of the importance of affects has resulted, I think, in an exaggerated swing of the pendulum to the opposite extreme. It is, I think, ridiculous to suppose that the energy informing our acts is derived solely from our affects. We may, however, reasonably consider the view that, using the term in its widest sense, our attitudes serve as keys that unlock the energies resident in our acts. It is also ridiculous to suppose that our acts depend for their energy on *drainage* from one set of channels to another. The modern studies of repression alone suffice to prove that censoring, as the Freudians term it, involves actual work in the imposition of resistance. The mind is not comparable, as according to McDougall, to a vast sewerage system, in which the active channels drain off energy from those which are ipso facto rendered inactive; inhibition involves as much work as excitation.

The same exaggerated importance of the affective consciousness has led to the attribution of all forgetting, every slip of the tongue, to emotional conflict and inhibition. Surely prolonged laboratory experience in learning large numbers of senseless syllables or in rapidly naming long series of familiar objects suffices to show the extravagance of this view. Deterioration or disorder in cognitive processes is not always dependent on affective factors. We must recognise that the act may suffer through its excessive exercise, as well as through direct inhibition by other acts; at the same time fully admitting that the attitude which suffers mainly through flagging interest or conflicting feeling may also thus influence the act.

THE CENTRE OF CONSCIOUSNESS.

That some central factor of general intelligence exists, depending on the functioning of the highest system of mental activities known as the self, there can be little reasonable doubt. But its conception is also commonly bound up with that of localising the various conscious processes, which are *not* those of general intelligence, in different regions of the brain. For generations past it has been customary to believe in special centres for the various motor, sensory, and perceptual activities involved in speech, and to regard them as "seats of consciousness," connected with one another and presumably with that highest central centre of the self or ego. It is interesting to find that the recent researches into aphasia by Head have enabled him to produce cogent evidence against such a view.

For my own part, in my Cambridge lectures, I was long wont to protest against it by means of the following illustration. If I wanted to travel by rail from Cambridge to King's Cross, it would be essential for me to pass through Hitchin. A block at Hitchin would prevent my arrival at King's Cross. But I should not be justified in confusing Hitchin with King's Cross and in transferring the block at Hitchin to King's Cross. So too, if a certain occipital area must necessarily function in order that, say, an apple may be perceived as such, I should not be justified in describing that area as a "visuo-psychic centre" because I fail to apprehend an apple when that area is disorganised. All that I can legitimately infer is that that occipital area is essential for visual perception, just as Hitchin is essential for me to reach King's Cross. Seats of different consciousness must not be thus fallaciously localised in relatively small different areas of the cerebral cortex.

A similar error endangers Head's earlier conjection (in his work with Gordon Holmes) that the thalamus is the "centre of consciousness for certain elements of sensation"[2] which he infers from the results of interference of the normal connexions between the thalamus and the cerebral cortex. No doubt he would himself admit that if we interfere with a small part of the central nervous system it is impossible to suppose that that part remains the seat of conscious processes. Consciousness depends on the self. The activities of the thalamus can only affect consciousness by forming part of those activities which contribute to those of the self. All that we can safely infer is that when the thalamus is separated from the cerebral cortex its activities affect the self in a manner different from that when its normal relations to the cortex are intact. We cannot posit a "centre of consciousness" in any form.

THE NATURE OF CONSCIOUSNESS.

This brings me, in conclusion, to a brief study of the nature of consciousness itself. There was a time when mind was regarded as the product of the brain, just as bile is regarded as the product of the liver. This was succeeded by an age when mind and living matter were considered to be so absolutely different in character that for this, if not for any other reason, it seemed absurd to compare mind with bile as a "secretion" of living substance. Instead grew up on one side, the theory of psycho-physical parallelism—that mental and neural processes are two different aspects or reflections of one and the same unknown activity—and, on the other side, the theory of interactionism; that so far from being parallel they are independent and may each, according to circumstances, influence and control the other.

Times have now changed. Substance proves no longer as "substantial" as it appears. We are no longer content to regard matter as composed of solid atoms. The structure of the atom is now revealed to us as a constellation of ions, each of which appears to be merely a charge of electrical energy, endowed with inertia, mass, weight, and structure.

What exactly is the relation of such a view to the hypothesis of a structureless, continuous, almost perfectly elastic ether is so far uncertain. But the phenomena of light prove no longer to be solely explicable in terms of the undulatory theory; some of them now demand a corpuscular theory for their solution. At all events, matter is now regarded as a manifestation of electric forces, a product of activities.

MIND AND MATTER.

What now of mind? Is not this likewise a product of activities? Is the difference between mind and matter so fundamental as a hundred years ago it appeared? Are not the hidden activities of mind

[2] Brain, 1911–12, xxxiv., 181.

and matter of greater import than their more obvious products? Are not the respectively material and mental characters of these products due ultimately to such activity itself?

When we come to consider the difference between mind and *living* matter the distinction is reduced almost to vanishing point. For it is essentially the same purposive, directive, plastic, and constructive characteristics, distinguishing living from dead matter, which, raised to a still higher power, distinguish both nervous and mental activity from the activity of other living tissues. The problems of life that confront the physiologist are precisely those of mind that confront the psychologist. Life and mind must ultimately be solved in similar terms. From each we can abstract the mechanical, comparable to what we know of the activities of lifeless matter. But it may well be that the apparently blind mechanism of which physics treats is only an abstraction from a purposeful direction that plays its part in the larger universe regarded as an organism, just as we are bound to conceive of such direction even in the lowest living individuals, even in the lowest physiological levels of the higher living organisms.

With progressive evolution of these various levels have "emerged," according to the recent terminology of Lloyd Morgan and Alexander, the various levels of mental activity. It may be that the term "differentiation" will often be found more useful than that of "emergence," so often is the new really pre-existent, though in a primitive, vague, undifferentiated state, in the old. But admitting also the "creation" of new forms with the progress of evolution, may we not sometimes regard the mechanical forms of activity as being really a degradation of still higher forms? Because electrical energy is the only energy in which that of the nervous system reveals itself to us, can we deny the possibility that this is a degradation of some higher, what I may term "psycho-neural," energy, which assumes a more psychical character in the highest levels of the nervous systems of the most highly organised individuals, whose wider and more plastic areas are more complexly integrated together to function as a single entity?

These are among the problems which seem to be worthy of consideration in the broader study of consciousness.

OBESITY IN CHILDREN,

WITH SPECIAL REFERENCE TO CARBOHYDRATE METABOLISM AND ITS MODIFICATION BY THE ADMINISTRATION OF CERTAIN DUCTLESS GLANDS.

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CHILDREN are not uncommonly brought under medical supervision and treatment on account of obesity which is of no common order, but gross in its degree and associated with a soft, velvety texture of the skin, gynæcomastia, prominently feminine conformation of the body, and placidity of temperament. These features often lead to a diagnosis of dyspituitarism on quite insufficient grounds, and in many cases the onset of puberty is accompanied by loss of fat and development thereafter on ordinary lines. In other cases, stunting of growth, mental backwardness, and genital hypoplasia provide the classical syndrome of Fröhlich, while in still others there is skeletal overgrowth described by Cushing. Of the last eight cases under our observation, four have been of boys and four of girls. The sexual development of two of the girls, aged 9 and 13 respectively, has not been ascertained, but that of two of the boys, judged by the external sex organs, is obviously rudimentary. The other two boys are well above the usual height for their age, and the same is true of two of the girls. One of these, aged 10, is 4 ft. 7¼ in. high and weighs just under 9 st.; the other, aged 13, is over 5 ft. high and weighs 12 st. 13½ lb. In both menstruation has begun. No malady preceded the obesity, except in the case of the precocious and overgrown girl aged 10, in whom it began after encephalitis lethargica. Cases having a like relationship were referred to by Prof. A. J. Hall in his Lumleian lectures (1923).[1]

Endocrine Glands in Relation to Obesity in Children.

Against accepting cases of obesity of this nature in children too readily as examples of dyspituitarism, it may be argued that obesity alone will provide the gynæcomastia, the "pudding face," and the feminine contours. When, however, the obesity is accompanied by disordered physical or mental growth, whether in the direction of retardation or the reverse, there is more reason for regarding it as other than exogenous and for looking to the endocrine glands for an explanation. It is known that defects of the hypophysis may be found in cases of obesity, whether accompanied by infantilism or by precocious growth, and again, that by ligaturing the stalk of the gland, or dividing it in young animals, hypoplasia of the gonads may be caused. Nevertheless, in clinical medicine it is difficult to assess the part played by other ductless glands in the altered economy. How far, for example, is the hypogenesis of the sex glands responsible for the obesity or for the overgrowth when it occurs? We know that obesity is often a feature of the end of the climacteric, and that eunuchs are apt to be magnificent specimens of humanity in stature and muscular power. Of the rôles played by the thyroid, the pancreas, or the suprarenal glands in this disorder we are ignorant, and, despite much valuable work, uncertain of the precise functions of the several parts of the hypophysis itself. A tumour of the anterior lobe cannot fail to compress the posterior, whilst an experimental lesion cannot be performed on one lobe without affecting the other. A discussion on the inter-relations between the different parts of the gland and between the whole gland and other ductless glands, takes us into the region of hypothesis, where much is proposed and little substantiated.

Obesity of the kind under consideration may be due to a pituitary tumour, which, if it is large enough, provokes its particular signs of pressure, notably bitemporal hemianopia. The diagnosis does not remain in doubt in such cases, but they represent only a very small proportion. In none of the eight cases were these signs present. To inculpate the pituitary gland, two other signs are often sought—changes in the pituitary fossa as seen by Röntgen rays and increased tolerance for carbohydrates. Radiographic evidence is more often lacking than not, and was only forthcoming in two of our cases, the radiograms showing reduction of the size of the fossa in one case and enlargement in the other. The absence of changes in the fossa in the others calls for no comment, for, except in the presence of a tumour or when the functional capacity is below normal from want of full development of the gland during fœtal life, no change in the size of the fossa would be expected.

Carbohydrate Tolerance in Obesity.

In all the cases the usual test for carbohydrate tolerance has been employed, various doses of sugar up to 300 g. having been given by the mouth, and the urine subsequently examined for glucose. No glycosuria resulted even with the large doses, except in one case (Case 3 below). Might not a similar result occur in exogenous obesity alone, for such patients often eat carbohydrates in excess and obviously

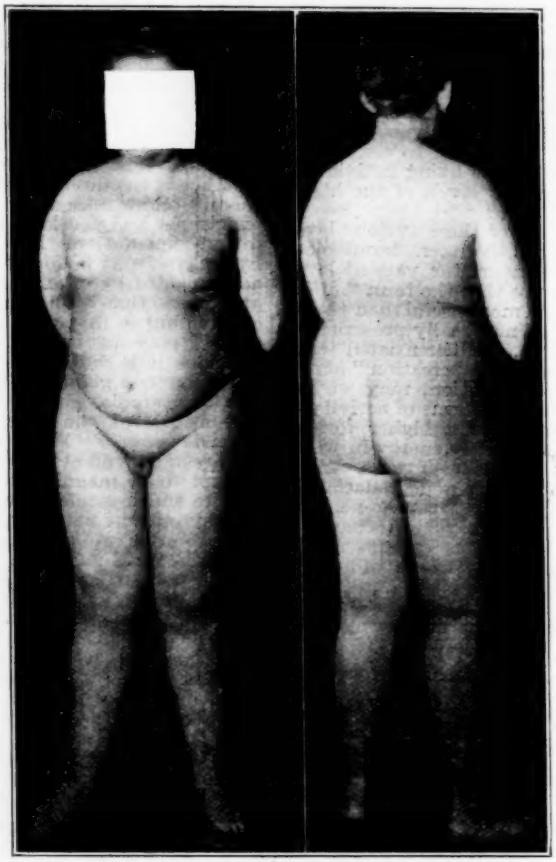
[1] Hall, A. J.: THE LANCET, 1923, i., 731.

store them? In any case the validity of the test is rendered somewhat dubious by the pronouncement of MacLean,[2] that no amount of ingested sugar will cause glycosuria in a normal person. Against this, however, it must be stated that when equally *large* amounts of sugar were given to other children, comparable in age or in weight, glycosuria resulted.

Modern biochemical methods of examining the blood permit the study of carbohydrate tolerance in greater detail, and several cases such as ours have been investigated in this way. The blood-sugar curves, after ingestion of known amounts of sugar, have not been found to resemble each other closely or provide any characteristic form in cases of reputed dyspituitarism. This examination has been carried out in our cases, doses of from 50 to 220 g. of sugar having been administered and the blood-sugar values estimated at quarter- or half-hourly intervals and plotted out. Our results have agreed with those of others, the curves obtained having variable features, though all deviated from the normal to a greater or less extent.

In view of the various endocrine defects which might explain the combination of obesity with infantilism or with overgrowth and premature development, it occurred to us that useful information might be obtained by determining the manner in which the blood-sugar curves could be modified by the administration of certain ductless glands. Four cases were selected for this purpose, and were those of three boys, aged 10, 11½, and 14 respectively, and of one girl, aged 13. In the two younger boys the obesity was accompanied by genital hypoplasia, but there was no mental backwardness, whilst the eldest boy and the girl were examples of obesity with overgrowth, with normal sex development.

FIG. 1.



CASE 1.—F. X., aged 10, obesity with genital hypoplasia.

FIG. 2.

Case Records.

The main features of the cases may thus be briefly summarised:—

CASE 1 (Figs. 1 and 2).—F. X., male, aged 10. He shows the usual features of the pudding-faced type of dyspituitarism, so named by Fearnsides. Weight 11 st. 11½ lb. Mentally not backward, good-natured, talkative. Sexual development: diminutive penis, left testis undescended. Urine normal. No glycosuria after 200 g. sugar. X ray examination: pituitary fossa very small. Always a big boy, getting fatter since 6 years old.

CASE 2 (Figs. 3 and 4).—B. L., male, aged 11½. Characteristic build, &c., of the same form as Case 1. Undeveloped sexually. Systolic blood pressure 104. Weight 12 st. Mentally bright. Scar in the neck marking an operation for a thyroglossal cyst. X ray examination: sella turcica definitely enlarged. No evidence of intracranial pressure.

CASE 3 (Fig. 5).—B. H., male, aged 14. Great obesity, but less infantile in manner; feminine in build. Weight 10 st. 12 lb. Sexual development probably normal. Mentally backward. Sugar tolerance, 0·2 per cent. of sugar in the urine after 120 g. glucose. X ray examination: pituitary fossa normal. Obesity began at 9 years of age.

CASE 4.—M. A. S., female, aged 13. Excessive growth, otherwise dyspituitary appearance and manner. Mentally not backward. Weight 12 st. 13½ lb. No glycosuria after 220 g. glucose. X ray examination: sella turcica normal.

Method of Investigations.

The laboratory part of the work has been done by one of us (E. G. B. C.), and the investigations carried out have been as follows:—

1. The blood-sugar curves as compared to the normal.
2. The influence on the blood-sugar curves of pituitrin, adrenalin, and adrenalin and insulin.
3. The influence on the curves of thyroid as compared with desiccated posterior pituitary lobe.
4. The relative influence on the curves of anterior pituitary (desiccated substance), posterior pituitary (desiccated substance), whole gland (desiccated substance) and whole gland + thyroid.
5. The influence of gonadal extracts.
6. The blood-fat values.

1. *Blood-sugar Curves.*—50 g. glucose were given to Cases 1 and 3, 70 g. to Case 2, and 100 and also 220 g. to Case 4. All have abnormal curves; these have been confirmed by repeated investigation. The results are as follows (see also Fig. 6):—

(*a*) Starting from fasting levels (which were normal) the blood-sugar curves required a time considerably longer than usual to reach their apices—in one case 1¾ hours and in two others 1½ hours; the curve of Case 3 was rather uncommon, a slight dip occurring between two peaks of equal height (0·145 per cent.) at ½ hour and 1½ hours.

(*b*) In three of the cases the altitude of the curve was less than normal—all rising to about 0·14 per cent. only. The fourth reached a normal height of 0·17–0·18 per cent.

(*c*) In none of the cases did the blood-sugar regain the initial level of about 0·1 per cent. within two hours; the values at the two-hour period varied from 0·12 to 0·13 per cent.

The occurrence of varying blood-sugar curves repeats the findings of other investigators.

2. *Influence of Pituitrin, Adrenalin, and Adrenalin + Insulin.*—The same quantities of glucose were given as before, and the effect on the curve was tested for pituitrin (½ c.cm. given hypodermically ½ hour previously), for adrenalin (Mxiv.) hypodermically, and for adrenalin (Mii.) + 6 units of insulin. (See Fig. 7; the curves of Case 1 only are shown as they are representative of the others.)

(*a*) In a normal person pituitrin (½ c.cm.) was shown not to alter the fasting level or apex of the curve, but only slightly to prolong its fall. The effect of the pituitrin in

[2] MacLean, H.: Modern Methods of the Diagnosis and Treatment of Diabetes Mellitus (Constable and Co.), 1924, p. 54.

these cases was different (see curve B). In all four it hastened the rise of the blood-sugar; in two of these an apex of normal height was reached in normal time, in the other two the altitude was increased appreciably. The fall of the curve (or storage), as gauged by the second hour percentage, was not quite so good as with the sugar alone.

(*b*) Adrenalin (𝍐iv.) in each case produced hyperglycæmia to 0·24 per cent. or over, accompanied by glycosuria; the fall of the blood-sugar was also greatly at fault, the second hour levels varying from 0·155 to 0·190 per cent. (curve C).

(*c*) Adrenalin (𝍐ii.) + insulin (6 units) produced in all a blood-sugar curve which was practically normal (curve D).

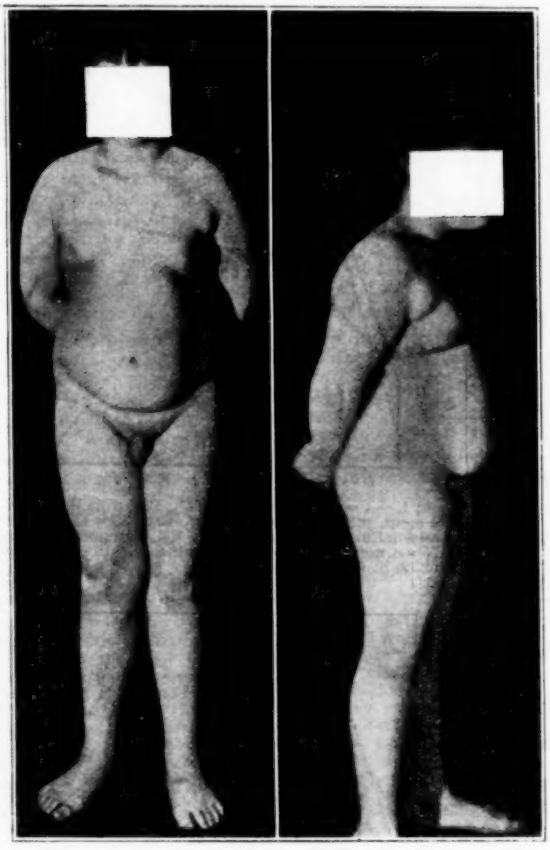
When no sugar was given, 𝍐iv. of adrenalin showed a rise to a maximum of 0·128 per cent. only, while 𝍐ii. gave a maximum of 0·120 per cent. only. It would appear, therefore, that the results obtained can hardly be due to a combination of the separate effects of adrenalin and sugar, but rather that adrenalin had acted merely as a fillip to some part of a sluggish carbohydrate metabolism.

3. *Influence of Thyroid compared with Posterior Lobe (desiccated substance).*—Case 1 is shown in Fig. 8 and Case 4 in Fig. 9.

(*a*) 2 gr. of thyroid extract (fresh gland) were given three times daily for nine days previously. This raised the fasting level of the blood-sugar to about 0·126 per cent. in two of the cases, while in the other two the level stood at 0·11 per cent. The rise of the curve was more rapid in three, but the slow fall was enhanced in all four cases (see B, Fig. 8). The effects are, therefore, similar to those in normal persons as regards the fasting level and the fall of the curve.

(*b*) Posterior pituitary, desiccated substance, gr. ii., thrice daily for 27 days, led to a blood-sugar curve practically normal in Cases 1 (see C in Fig. 8) and 2. It is interesting that these cases appeared also to be benefited clinically by the posterior pituitary substance, that both show changes in the sella turcica by X rays, and are infantile sexually. In Cases 3 and 4 (see C in Fig. 9) the fall in the blood-sugar value was made slower instead of more normal, and no benefit derived clinically, though in Case 4 the rise in the blood-sugar was accelerated.

FIG. 3. FIG. 4.



CASE 2.—B. L., aged 11¼, obesity with genital hypoplasia.

FIG. 5.

CASE 3.—B. H., aged 14, obesity, normal sexually.

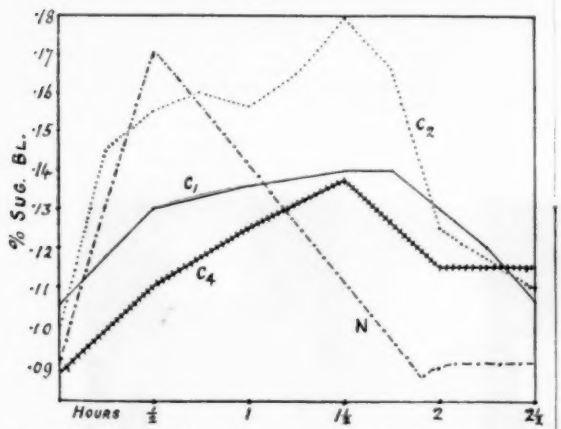
4. *Relative Influence on Blood-sugar Curves of Anterior Pituitary Desiccated Substance, Posterior Pituitary Desiccated Substance, Whole Gland, and Whole Gland + Thyroid.*

(*a*) Anterior pituitary, desiccated substance, gr. 7½, was given thrice daily for four weeks to each. In the two boys (Cases 1 and 2), who were benefited by posterior pituitary substance and whose blood-sugar curves were made normal by it, the effect of anterior pituitary substance was distinctly less beneficial (compare A and B in Case 1, Fig. 10). The blood-sugar curve of the other boy (Case 3) was made normal by the anterior pituitary substance, though the posterior pituitary had had little effect (see A and B in Fig. 11). In the case of the girl (Case 4) both extracts had the same action on the curve, the rise being improved and the fall made worse.

(*b*) Whole gland, 6 gr., thrice daily was also given for four weeks. It provided a blood-sugar curve which showed that its effect was between that produced by anterior and posterior lobe substances in the three cases (1, 2, and 3) in which one or other of these had led to a normal curve (Figs. 10 and 11). In the case of the girl (Case 4), where each separately had hastened the rise and delayed the fall, the whole gland produced a curve representing a summation of these actions.

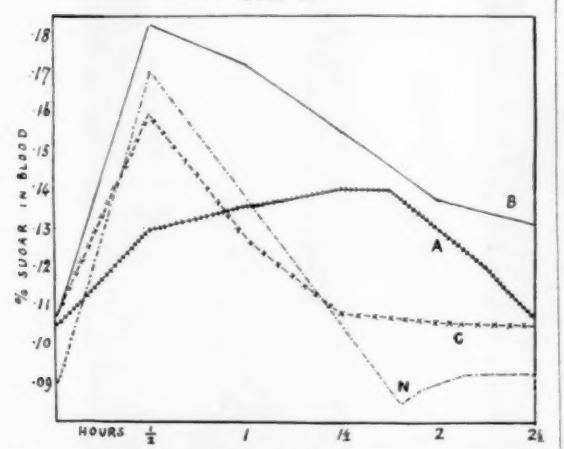
BLOOD-SUGAR CURVES.

FIG. 6.



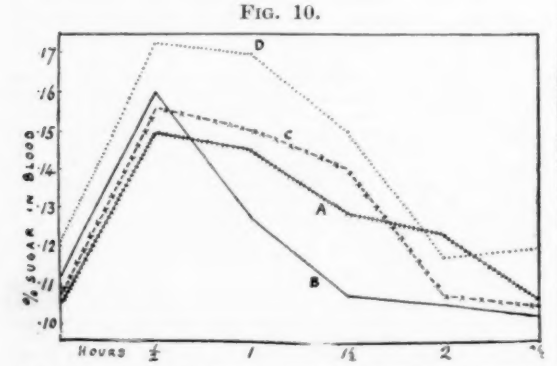
N = normal curve when 50–100 g. glucose are taken. C_1 = Case 1: 50 g. glucose taken; N.S.U. (= no sugar in urine.) C_2 = Case 2: 70 g. glucose taken; N.S.U. C_4 = Case 4: 100 g. glucose taken; N.S.U. [220 g. glucose gave practically the same curve, N.S.U.] The curve of Case 3 is not given to avoid crowding the chart.

FIG. 8.



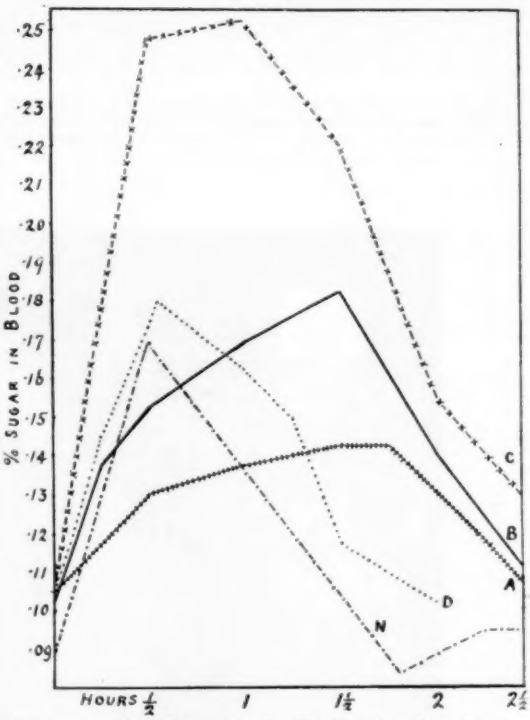
CASE 1.—A = 50 g. glucose. B = 50 g. glucose, thyroid, gr. ii., given t.i.d. for 9 days previously. C = 50 g. glucose; post-pituitary (desiccated substance), gr. ii., t.i.d. for 27 days previously. N = a normal curve. (N.S.U. in A, B, or C.)

FIG. 10.



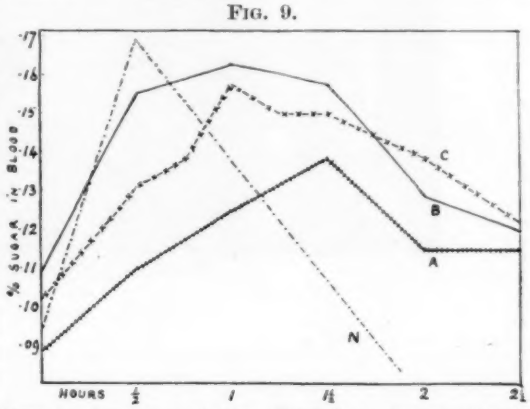
CASE 1.—A = 50 g. glucose; anterior pituitary, desiccated substance (P., D., and Co.), gr. viiss., t.i.d. for 4 weeks previously. B = 50 g. glucose; post-pituitary (desiccated substance, Carnrick), gr. ii., t.i.d. for 27 days previously. C = 50 g. glucose; whole-gland pituitary (desiccated substance, B. W., and Co.), gr. vi., t.i.d. for 4 weeks previously. D = 50 g. glucose; whole-gland pituitary, gr. iv., + thyroid, gr. ¼, t.i.d. for 4 weeks previously. (N.S.U. in A, B, C, or D.)

FIG. 7.



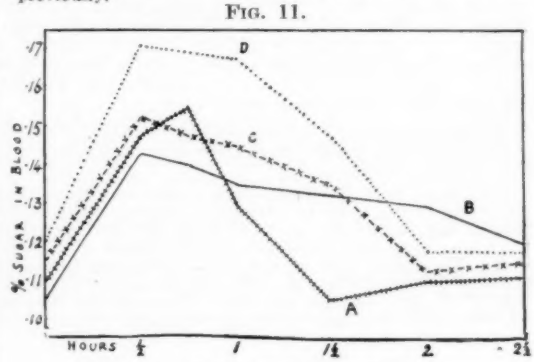
CASE 1.—A = 50 g. glucose (see C_1, Fig. 6). B = 50 g. glucose + ½ c.cm. pituitrin ¼ hour previously. C = 50 g. glucose + ℥ iv. adrenalin. D = 50 g. glucose + ℥ ii. adrenalin + 6 units insulin. N = a normal curve to 50 g. glucose. (0·6 per cent. sugar in urine in C; none in A, B, D.)

FIG. 9.



CASE 4.—A = 100 g. glucose. B = 100 g. glucose; thyroid, gr. ii., given t.i.d. for 9 days previously. C = 100 g. glucose; post-pituitary (desiccated substance), gr. ii., t.i.d. for 27 days previously.

FIG. 11.



CASE 3.—Description of figure as Fig. 10.

(c) When gr. ½ of thyroid was added to the whole gland the curves (D in Figs. 10 and 11) were found to be at a slightly higher level than when whole gland was given alone in the case of the patients whose blood-sugar curves were made more normal by pituitary. In the other case, where pituitary had caused no improvement in the fall of the curve, this small dose of thyroid seemed to show a beneficial effect.

5. *Gonadal extracts*, using for testicular extract: "Didymin" gr. v., and for ovarian: "Ovarium" gr. v., had no effect.

6. Two of the children (Cases 1 and 4) have been taking a so-called "protein" diet (as fat-free as possible) for four weeks. The possible influence of the amount of blood-fat on carbohydrate metabolism was imperfectly appreciated before the dieting was begun, and unfortunately no blood-fat value estimated. After the dieting the blood-fat in each was within normal limits (about 0·60 per cent. whole-blood total fat), and the blood-sugar curves showed practically normal ascents and apices, but the fall of the curves, though improved, was not yet normal. The dieting was accompanied by loss of weight in both cases, slight in one and as much as 1 st. 5 lb. 2 oz. in the other. Another patient (Case 2), who had continued with his usual diet, gave a blood-fat value of 0·67 per cent. The blood in each case was taken 13 hours after the last meal.

Experiments with Gonadal Extracts.

A preliminary note may be made here of work that is being done in connexion with the sexual infantilism of some of these cases. Bearing in mind the facts: (1) that in the type of obesity just described defect of the genitals is often an outstanding feature; (2) that the administration of the usual gonadal extracts is practically of no value; (3) that Banting has succeeded in the case of the pancreas in separating the internal and external secretions, it was thought worth while to apply the alcohol-fractional-precipitation method, devised by the Toronto School for the preparation of insulin, to the testes of animals in an attempt to isolate their internal secretion for therapeutic purposes.

12 lb. of bulls' testes were extracted with 5 litres of 95 per cent. alcohol, and 5 litres of the filtrate were made up to 8 litres with 95 per cent. alcohol. Further filtration gives a perfectly clear yellow solution. The alcohol was distilled off in vacuo until the residue reached about 200 c.cm. volume. The fat was removed by ether in a separating funnel, and the clear aqueous solution made up to 80 per cent. alcohol by the addition of absolute alcohol. After 24 hours a yellowish syrupy deposit separated out, and the decanted fluid, now free from protein and perfectly clear, had sufficient absolute alcohol added to it to make the alcohol content up to 93 per cent. A marked milky turbidity resulted as in the case of the preparation of insulin from pancreas. In the course of 24–36 hours a considerable granular deposit was obtained by decanting off a colourless, supernatant fluid. This deposit was collected and washed with absolute alcohol and ether in the centrifuge, and finally dried and preserved in a desiccator.

The amount obtained weighed 2·5 g. The substance is readily soluble in water, forming a light yellowish solution. Subcutaneous and intravenous injections were given to rabbits. Even large doses failed to produce any lowering of the blood-sugar level, this proving that the substance does not contain anything of the nature of insulin. No metabolic disturbance was noticed. In the human similar results were obtained.

Owing to obvious difficulties in investigating the effect on metabolism of a product of this sort—especially if it be considered to represent the internal secretion of the testes—it was decided to test the limited stock of the preparation on one of the above patients over a prolonged period. For this purpose the boy B. L. (Case 2) was admitted to the Unit wards on Dec. 10th, 1923. The dose to be given could not be other than empirical. From admission until the beginning of August, 1924, he received daily ½ c.cm. doses of the extract, equivalent to 10 mg. of the dried deposit. It is too early to remark on any changes in sexual development. Mention will be made only of the effect on weight.

From Dec. 10th, 1923, to Jan. 21st, 1924, there was a steady reduction from 12 st. to 10 st. 6 lb. 12 oz., the patient meanwhile taking a full mixed diet. At the latter date the administration of 6 gr. whole pituitary gland (desiccated substance) thrice daily was begun in order to ascertain whether the loss in weight would be accelerated thereby. Judging from the rate of continued reduction in weight—his weight on March 13th, 1924, was 9 st. 8 lb. 10 oz.—one can only conclude that the added effect has, at most, been slight. The pituitary extract has shown, however, a beneficial effect on carbohydrate metabolism, as noted by the correction of the slight delay in fall of the blood-sugar curve that existed. The patient's general health has been well maintained. His weight has fallen steadily and his appearance has become more normal. The other two boys (F. X., Case 1, and B. H., Case 3) have been used as controls, both receiving full diet but no medicinal treatment. Each has gained about 7 lb. in weight during the same period.

Summary.

1. We have found, as others have found before, that the blood-sugar curves in cases of great obesity in children—too readily called hypopituitarism—are diverse in their outlines.

2. In the two cases in which the diagnosis of hypopituitarism is most substantiated (Cases 1 and 2) posterior pituitary substance led to a normal curve; this favours the view that in cases of hypopituitarism it is the posterior lobe which is chiefly concerned with the altered carbohydrate metabolism. Its extract pituitrin, however, had less influence.

3. In a third case (Case 3), with more normal general development and with normal sexual development, the anterior lobe was that which had the correcting effect.

4. The slightly inferior influence on the blood-sugar curve of the whole gland substance in the above three cases appears to indicate that in these cases the good effect on carbohydrate metabolism obtainable by giving the appropriate gland substance may be counteracted to some extent by combining it with the extract of the other lobe.

5. Incidentally, these experiments appear to show that pituitary gland substance given by the mouth is not inert. As far as carbohydrate metabolism goes, the blood-sugar curve being used as an index, it seems logical to administer that lobe of the pituitary which produces the better effect on sugar tolerance. However, considering the cases generally, it will be noticed that the whole gland gives quite good results. In one case the addition of a small dose of thyroid improved matters. The results of the experiments, taken collectively, might be construed as indicating that a properly balanced pluriglandular therapy is required for cases such as these; the suggestion has a pharmacological rather than a physiological basis.

6. Thyroid extract may reduce weight in cases of this kind, but it can hardly be considered an ideal remedy per se, in that it does not restore carbohydrate metabolism to normal.

7. Possibly the production of a normal blood-sugar curve may prove a useful guide to treatment, since when this happened with pituitary substance the patient's condition improved generally.

8. Possibly, too, a somewhat restricted diet, in which the protein is relatively increased, the carbohydrate curtailed, and the fat practically eliminated, may constitute one of the most effective means of stimulating metabolism and reducing weight.

9. The method of preparation from the testes of animals of what may possibly be their internal secretion is described, and also the very considerable loss in weight associated with its administration in one of the above cases.

These investigations are incomplete, and the suggestions put forward concerning the results obtained must only be regarded as tentative.

SPLENECTOMY IN EGYPTIAN SPLENOMEGALY.

SEVENTY CASES.

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AND
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VERY full and clear descriptions of Egyptian splenomegaly and its treatment by splenectomy have been published by various members of the staff of the Government hospital at Cairo, to whom we wish to express our indebtedness for putting the operative treatment of this disease on a satisfactory basis.[1 2 3 4] Mayo[5] and Moynihan[6] have interesting papers on this subject.

Distribution and Incidence.

Our patients at Old Cairo, to the number of 20,000 yearly, come from all parts of Egypt, and we have also three continuous clinics in the western Delta, and have held three-monthly clinics in the central and eastern Delta, and also immediately south of Cairo. As far as our experience goes we are of opinion that splenomegaly is most common on the eastern side of the Delta and diminishes as we pass to the western side, and further diminishes as we pass from Cairo southwards through Upper Egypt. The great majority of our operation cases come from two well-defined areas, one near Zagazig and the other near Dekernes, both in the eastern Delta. It is difficult to decide whether this is mainly due to recommendations of old patients, or indicates a specially high incidence of the disease in these centres.

Age of Incidence.—This is mainly in the second and third decades. The average age of our operation cases is 19 years, and the limits are 8 and 40 years. We have not found any indication of seasonal variations, as has been suggested by Richards.[3] We see many cases of ascites (of which a considerable proportion are terminal stages in Egyptian splenomegaly) between the ages of 20 and 30 years. In other words, most patients suffering from splenomegaly develop extreme cirrhosis of the liver within a few years. Of our 70 operation cases 13 only were female. We are of opinion that this disparity is not entirely to be accounted for by the greater readiness of men than of women to seek medical aid, but is an indication of a real difference in sex incidence. It is interesting to remember in this connexion that bilharziasis is much more common in the male than in the female in Egypt, and possibly there may be some causal relation between bilharziasis and splenomegaly, as Dr. J. B. Christopherson has suggested, though it has not been possible to prove bilharzial infection in all our operation cases.

The Blood.

In most cases the blood picture was examined after the treatment of concurrent ankylostomiasis and bilharziasis, though occasionally splenectomy was performed after only 15 gr. of sodium antimony tartrate had been given intravenously. Our typical red cell count is 4,000,000 and the colour index 65, while the leucocyte count is between 3000 and 4000. The differential white cell count is about normal. Any considerable degree of leucocytosis has been regarded as a contra-indication to operation, yet we believe there is often a moderate leucocytosis early in the disease, and in view of this we have removed spleens from ten patients whose white cell counts varied from 7000 to 10,000 with results as good as in the cases with a leucopenia. During the four years covered by this report we found a leucocytosis in 32 other cases of splenomegaly with an average count of 13,600, the range of counts being between 10,000 and 24,000. Only two cases of leukæmia were discovered with counts of 4,408,000 reds and 520,000 whites, and 3,116,000 reds and 306,800 whites respectively.

Summary of Cases.

Since the year 1920 splenectomy has been advised in all suitable cases. Of those seen in our out-patients' department quite a number, probably 50 per cent., are refused for operation at once owing to definite contra-indications—e.g., considerable ascites, pellagra, disease of the heart, and advanced general debility. The remainder are advised admission for observation and further examination, and the majority agree to this. Most are suffering from ankylostomiasis and bilharziasis, either rectal or urinary, and these diseases are treated before the blood is examined. Less than half of these thus admitted come to operation—frequently there is some leucocytosis, or some other contra-indication is discovered, and a certain number grow impatient at what they consider the long unnecessary preliminary treatment (two or three weeks or more) and go home. Altogether we have done 70 cases—11 in 1920, 29 in 1921, 13 in 1922, and 17 in 1923.

Operation.

An injection of pneumococcal vaccine is given in every case the night before operation. In the average case we do not now consider the operation a difficult one, and have twice done three cases in a morning's list. We have little to add to the other descriptions of the operation for removal of enlarged spleen. Our incision is through the left rectus, and wherever possible the spleen is delivered through the wound before ligature of the pedicle. Sometimes this is almost impossible owing to adhesions or width of pedicle. At first we found several cases (not included in this number) where we did not deem it wise to remove the spleen owing to the strength of its adhesions to the vault of the diaphragm, but latterly we seldom find a case where these cannot safely be broken down.

We have learned from experience to know beforehand from the shape of the spleen which are difficult cases. A spleen very long from above downwards usually means a long pedicle, and can easily be tackled piece by piece; but a broad spleen, extending medially beyond the middle line, means a thick bunched-up pedicle in which the vessels are difficult to reach and secure individually. In these latter cases we throw a ligature round the whole pedicle, or at any rate the main mass of it, and after cutting off the spleen we tie the gaping ends of the vessels separately. Occasionally the tail of the pancreas is very closely involved in the pedicle, and once or twice in difficult cases the tip of this organ has been included in the ligature and removed, but no bad results have ever been seen from this. All our cases are anæsthetised with chloroform, preceded by an injection of morphia and atropine, and a rectal saline is given directly they are returned to the ward and repeated at intervals. There has been no serious trouble with hæmorrhage in any of our cases. There have not been any immediate fatalities, and the patients generally leave the table with a good steady pulse. The spleens removed have varied in size from 1¼ lb. to 12½ lb., the average being 3¾ lb. for the series.

Mortality.

The only other published results in this country which can be traced are those from the Egyptian Government hospital, which report 43 cases by various surgeons with nine deaths, a mortality of 20·9 per cent. In our series the total mortality has been 11, which is 15·7 per cent. The mortality in the first 40 cases was only 10 per cent., but this was unfortunately increased in the following 30 cases by the loss of two or three cases unexpectedly in 1923. Nearly all the deaths occur between the second and fourth day. One died ten hours after operation, due apparently to a ligature slipping as a result of violent vomiting and coughing. Two cases were lost through pneumonia, but this danger has been wonderfully lessened by the routine use of pneumococcal vaccine as a prophylactic. Most

of the deaths were presumably due to a type of late shock in which the patient never seems to rally from the operation. There appears to be some unknown factor in certain cases of this disease when the heart, apparently normal, suddenly gives way, causing a quick and fatal collapse. This occurred recently in a patient who collapsed on the very day fixed for his operation, shortly before he was due to be taken to the operating table. This may help towards explaining some of the unexpected deaths. It is hoped that a further series of cases will show a still smaller mortality.

After-results.

It is very difficult to follow up cases among the Egyptian villages, but considerable trouble has been taken in attempting to do so. A fair number of old splenectomy cases have been traced and examined, and these have nearly all been found well and strong, many of them exceptionally so. In none of them has there appeared any sign of ascites—one of the late symptoms of the disease when left to pursue its course without operation.

Conclusions.

1. That splenectomy is the most satisfactory treatment of Egyptian splenomegaly.
2. That great care is essential in the selection and preparation of cases.
3. That the mortality is still high, but untreated cases so early develop extreme ascites that the operation is justifiable.
4. That a small degree of leucocytosis is not necessarily a contra-indication to operation.

Our thanks are due to our senior colleague, Dr. F. O. Lasbrey, for his coöperation in the work, his 14 operations being included in the above.

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THE EFFECT OF SPLENECTOMY ON THE PRODUCTION OF EXPERIMENTAL PURPURA.

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NUMEROUS observers have been struck by the large number of platelets which are present in the spleen. One has only to tease up a portion of this organ in citrate saline and examine the preparation, stained or unstained, to be convinced of this. In the course of some recent work on the genesis of the platelet (Bedson and Johnston, in the press) this fact was brought out in another and rather more striking manner. An anti-spleen serum had been prepared, and it was found that this serum, like anti-platelet serum (Ledingham, 1913 [1]), was capable of producing typical purpura hæmorrhagica in the animal. This purpurigenic power has been shown to be specific to platelet antibody (Ledingham and Bedson, 1915,[2] Bedson, 1922 [3]), so that from this it follows that the anti-spleen serum contains platelet antibody. The spleen, therefore, contains platelet antigen either in the form of the mother cells of the platelet, or mature platelets or both, and since suitable control experiments showed that this fact could not be explained by the free blood contained in this organ, one is left with two alternative explanations: (1) The spleen is rich in platelets because it produces these elements; (2) or the platelets collect in this organ, most probably with a view to their destruction.

Against the first hypothesis must be ranged the observation of Hess (1917)[4] that splenectomy in man results in an increase in the number of platelets in the circulating blood. A similar observation has been made by Crawford (1924)[5] in a case of acholuric jaundice, and recently, both in this country and in America, splenectomy has been performed in cases of purpura hæmorrhagica, with beneficial results. (For a review of the literature on this subject see THE LANCET, 1924, ii., 229.) It was thought that it would be of interest to determine in greater detail the effect of splenectomy on the platelet content of the blood, and further, the effect of this procedure on the course of experimental purpura produced by anti-platelet serum, in the hope of throwing some light on the rôle played by the spleen in the mechanism of this disease.

EXPERIMENTAL DETAILS.

A. *Effect of Splenectomy on the Platelets of the Blood.*

1. *Immediate Effect.*—Guinea-pigs were splenectomised, platelets counts being made before and at intervals after operation. Control animals underwent laparotomy only. The immediate result of the removal of the spleen was an immense increase in the platelet count. As soon as two days after operation the count had in many instances doubled, these high figures being maintained for at least ten days. No rise was observed in the controls. The result of the first experiment is given in Table I.

TABLE I.

Time of observation.	Platelets per c.mm.— G.-p., S. 2.	G.-p., S. 3.	G.-p. (control).
Before operation ..	682,000	609,000	876,000
	Splenectomy.		Laparotomy.
3 days after.. ..	1,340,000	1,284,000	740,000
10 ,, ...	1,593,000	1,360,000	543,000

G.-p. = Guinea-pig.

A similar increase in the platelet count has invariably been found to follow splenectomy, but no qualitative changes have been demonstrable in these elements.

2. *Duration of the Platelet Increase Following Splenectomy.*—The next point determined was the length of time that this rise lasted. It was found that three to four weeks after operation the count had fallen again to normal, as is shown by the following example (Table II.).

TABLE II.—*Guinea-pig, S. 6.*

Time of observation.	Platelets per c.mm.	Time of observation.	Platelets per c.mm.
Before splenectomy..	671,000	After splenectomy—	
Splenectomy	—	9 days	1,925,000
After splenectomy—		14 ,, ...	1,319,000
2 days	1,225,000	16 ,, ...	1,237,000
7 ,, ...	1,425,000	22 ,, ...	784,000

It must be obvious from these findings that the spleen plays little or no part in the production of platelets in normal extra-uterine life. On the other hand, the observed facts find a ready explanation on the assumption that the spleen is concerned with the removal of the effete platelets from the circulation and their ultimate destruction. On this hypothesis splenectomy would upset the balance between production and destruction and, as we know that the platelets are produced rapidly, this results in an immense increase in the platelet content of the blood in a very short time. Soon this function of the spleen is taken on by the phagocytic cells of other portions of the reticulo-endothelial system, the balance is once again restored and the platelet count falls to normal. Should this view be correct, then an interesting question arises: What is the rôle played by the spleen in the production of purpura? The immediate benefit of splenectomy in this con-

dition, as evidenced by the disappearance of hæmorrhages, would indicate that it is in some way concerned with the mechanism of purpura. Is the spleen necessary to the production of this condition? In destroying the injured platelet does it liberate some toxic factor which acts on capillary endothelium, producing the lesions necessary for the occurrence of hæmorrhage? Or is the effect of splenectomy merely indirect, the increase in the number of circulating platelets being the important factor? The following experiments provide the solution to this question.

B. *Effect of Anti-platelet Serum in Splenectomised Guinea-pigs.*

This was first of all investigated in guinea-pigs which had recently had their spleens removed and which still had high platelets counts. They were given a dose of anti-platelet serum which invariably gave rise to typical purpura in normal animals of the same weight. It was found that though the serum was still capable of destroying the platelets in the circulation of splenectomised guinea-pigs, the majority of these animals showed *no hæmorrhages whatever*, whereas normal animals of the same weight and receiving the same dose of serum developed severe purpura. The findings in the first experiment are given in Table III.

TABLE III.

Date in 1924.	G.-p., S. 2 (350 g.).	G.-p., S. 3 (345 g.).	G.-p., S. 7 (control) (350 g.).
	Platelets.		Platelets.
21/5	682,000	609,000	—
	Splenectomy.		—
30/5	1,593,000*	1,360,000*	—*
31/5	30,000	22,000	None seen.
	No purpura.		Very severe purpura.

* 0·5 c.cm. anti-platelet serum intraperitoneally.

The protection to anti-platelet serum is, however, merely relative, as some of the splenectomised animals which had received 0·5 c.cm. of the serum showed a moderate degree of purpura. As will be seen from Table IV., which summarises these experiments, five out of eight of the splenectomised guinea-pigs showed no purpura at all, whereas all seven control animals presented typical findings.

TABLE IV.

Final result.	Guinea-pigs— Splenectomised.	Guinea-pigs— Normal.	Final result.	Guinea-pigs— Splenectomised.	Guinea-pigs— Normal.
No purpura.	5	—	Severe purpura..	1	2
Mild purpura..	1	1	Very severe purpura..	—	4
Moderate purpura..	1	—			
Total				8	7

All animals were approximately of the same weight. All received 0·5 c.cm. anti-platelet serum intraperitoneally.

In the next experiment (Table V.) a series of four splenectomised guinea-pigs received increasing doses of anti-platelet serum.

Here, again, the protection afforded by splenectomy is demonstrated, but the fact that it is not absolute is equally obvious. The series is somewhat spoilt by the fact that guinea-pig S. 10, which only received a dose of 0·5 c.cm., developed purpura. It must be pointed out, however, that this animal was the smallest, and was thin and in poor condition at the time of experiment. Leaving aside animal S. 10, it will be seen that by increasing the dose of anti-platelet serum the protection is overcome, though even S. 12 and S. 13 were to a certain degree protected, because they showed only moderate degrees of purpura with doses as large as 1·0 c.cm. and 1·25 c.cm. What, then, is the explanation of this protection? It has been shown (Bedson, loc. cit.) that two factors at least are essential to the production of experimental purpura: (1) absence or almost complete absence of platelets from the circulation, (2) some lesion of the capillary wall (endothelium).

TABLE V.

Date in 1924.	Splenectomised guinea-pigs. S. 10 (290 g.).	S. 11 (300 g.).	S. 12 (330 g.).	S. 13 (300 g.).	Normal guinea-pigs. S. 16 (310 g.).	S. 17 (325 g.).
	Platelets per c.mm. (Reckoned in thousands.)					
19/6 ..	1238	1234	1141	1080	728	651
	0·5*	0·75*	1·0*	1·25*	0·5*	0·5*
20/6 ..	—†	361	—†	—†	—†	—†
	Mild purpura.	No purpura.	Moderate purpura.		Very severe purpura.	

* c.cm. anti-platelet serum intraperitoneally.
—† = no platelets seen.

Further, experimental findings indicate that, on the introduction of anti-platelet serum into the animal body, the platelets are the first elements acted upon. Should the dose given be in excess of that required to destroy the circulating platelets, then the unused portion acts on the endothelium of the small vessels, producing that other change essential to the production of purpura. Thus in rabbits, using the intravenous route, it is possible so to grade the dose of anti-platelet serum as to produce partial destruction of the platelets of the blood without purpura, complete removal of the platelets again without purpura, and finally with a larger dose still complete destruction of platelets together with purpura. It would appear, then, that the protection afforded by splenectomy to anti-platelet serum was merely due to the increased number of circulating platelets. A dose of serum which in the normal animal would be sufficient to destroy the platelets and act on the capillary endothelium as well, in the splenectomised animal would be merely sufficient to destroy or considerably reduce the platelets, leaving none free to give rise to endothelial lesions. This suggestion is already indicated as the correct one from the experimental data recorded in Table V. However, since the platelet count returns again to normal three to four weeks after splenectomy, this point could be readily settled by testing the resistance of guinea-pigs which had been splenectomised at least one month and in which the platelet counts were again normal. This has been done and the result is given in Table VI.

TABLE VI.

Date in 1924	G.-p., S. 22.	G.-p., S. 23.	G.-p., S. 24.	G.-p., S. 25.	G.-p., S. 26.
	Platelets per c.mm.			Platelets per c.mm.	
27/6	Splenectomy.	Splenectomy.	Splenectomy.	—	—
6/8	864,000	827,000	764,000	680,000	761,000
	—*	—*	—*	—*	—*
7/8	Platelets absent from circulation. Severe purpura.			No platelets seen. Severe purpura.	

* 0·5 c.cm. anti-platelet serum intraperitoneally.

Table VI. speaks for itself. It is quite obvious that the guinea-pig which has had its spleen removed and in which the platelet count has returned to the normal level again, reacts to anti-platelet serum in exactly the same way as the normal animal; it enjoys no protection at all. From this it follows that the spleen itself plays no direct rôle in the mechanism

of purpura, and that the protection afforded by this procedure finds its explanation in the increase in the number of platelets in the circulating blood. It would also appear that the improvement brought about by splenectomy in cases of purpura hæmorrhagica could only be of a temporary nature. As soon as this function of the spleen is taken on by some other portion of the reticulo-endothelial system, the platelets will again disappear from the circulation and the purpura will return.

Conclusions.

(1) Splenectomy gives rise to a great increase in the number of platelets in the circulation. (2) In the guinea-pig this rise is manifest 48 hours after operation, reaches its maximum about the tenth–fourteenth day, and falls again to normal in three–four weeks. (3) Splenectomy in the guinea-pig affords a degree of protection to the production of experimental purpura by means of an anti-platelet serum. (4) The spleen is only indirectly concerned in the mechanism of this pathological state. (5) Splenectomy cannot be relied on to give any but temporary relief in the treatment of purpura hæmorrhagica.

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Clinical and Laboratory Notes.

TOXIC INFLUENCES IN AN INSULIN TREATED DIABETIC.

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IT has been stated that insulin has little or no action upon cases showing septic absorption, but in the light of the following case it would appear that massive doses are of distinct value.

The patient, a woman of 53, had an attack of intense pain at the site of some varicose veins about 4 inches above the internal malleolus of the right leg in February. This area subsequently became quite anæsthetic and assumed the appearance of a superficial gangrenous slough. The condition slowly spread downwards, and on June 5th, 1924, she was admitted to this hospital. An examination showed dry gangrene of the whole of the right foot and lower part of the leg, the line of demarcation being 7 inches above the internal malleolus. The heel and distal part of the great toe of the left leg were similarly affected. No popliteal pulse could be detected on either side, and the femoral pulse was not felt on the right.

Urine examination showed 2 per cent. sugar, a total of 14 g. in 24 hours, acetone and diacetic acid also being present. The blood-sugar was 258 mg. per 100 c.cm.; on tenth day Allen's diet. She was then put on starvation diet, then first day Allen's, &c., up to tenth day diet, the insulin being increased from 10 units twice daily to 25 units thrice daily. On twelfth day Allen's diet and 25 units insulin thrice daily; her urine-sugar became 0·970 and the blood-sugar 153 mg. per 100 c.cm.

On July 5th she was transferred to a surgical ward under Mr. W. Sampson Handley, who amputated the right leg at the knee under open ether anæsthesia, and performed injection of the perivascular sympathetic trunks of the left femoral artery with alcohol. The patient made excellent progress for a week. The urine-sugar then became 3·3 per cent., Rothera's test and the ferric chloride test being strongly positive, and the blood-sugar 279 mg. per 100 c.cm.

The insulin was increased to 225 units daily in three doses. The patient gradually became worse and the usual stimulants had to be administered hourly. The stump-flaps now showed signs of secondary infection; superficial sloughs and a very free purulent discharge appearing, and the entire line of suture gaped. On July 27th the prognosis was considered hopeless; temperature subnormal, pulse 92, and the patient showed signs of developing a fatal diabetic coma.

Energetic treatment of the infected stump with eusol resulted in the separation of a large slough on the following day, the discharge diminished, and the wound appeared markedly cleaner. On this day the urine-sugar dropped to 1 per cent. although the insulin had not been increased, and by August 2nd the amount of sugar became 0·3 per cent., 0·2 per cent., and then nil. The blood-sugar had become 158 mg. per 100 c.cm. Throughout this period the diet had been No. 1 Allen's, and the insulin dosage 225 units daily. The strength of this insulin was 40 per cent. increase on the original Toronto (human) unit (i.e., one-third of the amount required to lower the blood-sugar of a starving 2 kilogramme rabbit to 0·045 per cent. within a period of four hours).

By Sept. 1st the stump was nearly healed, the gangrenous areas on the left foot separated off, and the patient's general condition was much better than when she had been admitted. On being discharged from hospital on Sept. 4th a slight amount of sugar had appeared again in the urine, but her stump was practically healed.

The case merits description as illustrating the marked influence of a septic focus upon the sugar excretion rate in a case under the influence of insulin treatment. So far as could be ascertained at the time, and in the light of the present limited knowledge of the conditions affecting the action of insulin, there were no factors other than the elimination of the septic focus to bring about this sudden change. It might be argued that the massive doses of insulin improved the patient's condition sufficiently to produce separation of the sloughs. Against this, however, is the fact that the insulin dosage had been the same for over a fortnight with no change for the better in the sugar amounts or in the wound. The sudden change from an almost comatose condition to one where the urine was sugar-free, induced by the separation of a slough and the free drainage of the stump, shows the marked effect of absorbed toxins upon the diabetic patient.

I am indebted to the Biochemical Department under Dr. E. C. Dodds for the estimations carried out, and to Mr. Sampson Handley for permission to publish the case.

LUPUS ERYTHEMATOSUS AND ALOPECIA AREATA.*

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THE cause of lupus erythematosus is generally supposed to be a toxin circulating in the blood. While I believe the majority of the French school still incline to the tuberculous nature of the toxin, the opinion is growing in other countries, and is firmly established here, that many other toxins are capable of causing the disease in predisposed individuals. The ætiology of alopecia areata is even more controversial, but the toxic theory has always claimed many adherents.

Barber [1] has produced evidence which tends to show that some cases at least of lupus erythematosus are due to toxic absorption from focal sepsis, and that a *Streptococcus longus* is the organism most often at fault. In another contribution, the same observer [1] reports several cases of alopecia areata associated with focal sepsis, which he believes was the cause of the disease in those particular patients.

If toxins of various kinds may be the cause of both affections a common factor becomes possible, and it will not be surprising to find the two coexisting in the same patient. The following case is an example of such a combination:—

The patient was a woman, aged 32, who first attended hospital in August, 1921, with several small patches of lupus erythematosus of the face of 12 months' duration. The general condition was good, tonsils were not enlarged, and there was no gross oral sepsis. The patient was treated mainly by applications of CO_2 snow, calamine lotion, and, internally, iodide of mercury. In May, 1922, it was noted

* Readers will notice with regret the announcement of Dr. Hannay's death on p. 1154.—ED. L.

that the patches were paler, but fresh ones had appeared. Early in August of the same year there appeared on the scalp several typical patches of alopecia areata, which rapidly extended until more than half the total area of the scalp was completely bald. Cultures were taken from the mouth, naso-pharynx, and fæces, and growths of *Staphylococcus aureus* and *B. coli* obtained. A vaccine containing these organisms was given on August 11th, and continued in weekly doses. In October two doubtful stumps were removed. In November a streptococcus was isolated from the naso-pharynx and added to the vaccine. By this time the hair had begun to grow in all patches; it continued to grow rapidly and did not fall out again. At the same time there was a marked improvement in the face lesions of lupus erythematosus, although these did not completely disappear.

The clinical appearances of lupus erythematosus and alopecia areata are well known, and typical examples give rise to no difficulty in diagnosis. From time to time, however, cases are met with which are not typical of any familiar disease of the scalp, but which, on close examination, present features which might be regarded as intermediate between the two conditions. I have even known one case which was seen by two skilled dermatologists and pronounced to be lupus erythematosus by one of them and alopecia areata by the other. The lesions in such cases may be single or multiple, and are usually about an inch in diameter. The area is bald, or nearly so; there may be a few stumpy atrophic hairs at the margin, but as a rule typical "point of exclamation" hairs are absent. The patch may show an erythematous flush, and possibly a very slight degree of atrophy. While not showing the follicular plugs, or little pits characteristic of lupus erythematosus, each follicle remains obvious. A certain amount of pruritus may be present. Sometimes the erythema is more marked, there is slight hyperkeratosis of the mouths of the follicles, with a suspicion of a little dry scaliness, and the case passes into the category of lupus erythematosus. On the other hand, the patch may be more smooth and less erythematous, and one is able with more confidence to apply the label of alopecia areata.

A patient under my care at St. John's Hospital was diagnosed by his doctor and by my assistant as a case of alopecia areata. On examination there were areate patches in which the hair had fallen out, but there was some redness, and a very slight scaliness which caused some doubt as to the nature of the case. The lesions are acquiring the aspect of a mild lupus erythematosus.

Dr. L. Chatellier,[2] in 1922, reported an interesting case of subacute lupus erythematosus with total alopecia. The patient was a woman aged 29. In 1919 she first noticed some reddish scaly and slightly irritable patches on the scalp. The hair fell out in these patches very quickly. Eighteen months later the scalp became red, and the hair came out "en masse" within two weeks. Later on there were general symptoms, with an eruption of lupus erythematosus on the body. The scalp was bright red, but *smooth*, with no trace of seborrhœa or scaliness.

In commenting on the case, the author remarked that alopecia is rare in this connexion, but had been noted by Jadassohn, Fox, Roth, Pernet, and Verotti. In Verotti's case the scalp was smooth and not inflammatory, and he is quoted as saying that it seemed possible to meet with cases of subacute lupus erythematosus in the course of which a total alopecia develops, with or without apparent lesions of the scalp. In Short's [3] case (quoted by Pernet and included by him in his series of cases of Lupus érythémateux aigu d'emblée) the hair fell out, but there was no inflammatory reaction present in the scalp. In borderland cases or where the two diseases are frankly associated every effort should, of course, be made to find and eliminate the offending toxin.

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Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OPHTHALMOLOGY.

A MEETING of this section was held on Nov. 14th, Sir ARNOLD LAWSON, the President, being in the chair.

Mr. RANSOM PICKARD read a paper on the

Relation between Cavernous Atrophy and Glaucoma.

He said that his object was to show that cavernous atrophy was a distinct entity, its association with glaucoma being merely casual, not causal. Cavernous atrophy might occur without glaucoma. He detailed seven cases, none of which had any nerve symptoms apart from the condition of the optic nerves. The discs were pale where the lamina cribrosa was exposed, but not elsewhere; the vessels were not contracted. In none of the cases cited was a tension of more than 28 mm. of mercury found; in most of them it was well below this. The progress of cavernous atrophy was very slow, and it seemed to become stationary after reaching a certain degree of intensity. In distinguishing cases of the condition from those of true glaucoma a careful study of the colour fields was very useful.

Mr. MALCOLM HEPBURN said the signs in the two kinds of case were so similar that he would hesitate about abstaining from suggesting operation in case of a mistake being made.

Mr. G. H. POOLEY regretted that Mr. Pickard had not given histories showing the progress of the seven cases related. A very important feature was the progress or otherwise of the condition.

Mr. LESLIE PATON referred to one undoubted case of cavernous atrophy which had come into his experience, and that was 15 years ago, and was seen before Schnabel wrote on the subject. The patient had been previously under Mr. Priestley Smith's observation, and he, with his well-known acumen, noted that, though the condition resembled glaucoma in many ways, and had a very deep cup, it was not glaucoma. The patient had myopia to the extent of 15 D. Mr. Paton's first observation on the patient showed that the field was limited to the 10° circle, and the last field taken, many years afterwards, showed no change from that.

Mr. PICKARD, in reply, said he had been trying for years to meet with and study early cases of glaucoma, and it was thus he came to recognise instances of cavernous atrophy. Several of his cases had been carefully watched for some years, and they showed no progress. One could not tell by examining a case whether it would be of short or long duration. He did not think these cases were of common occurrence.

Dr. FREELAND FERGUS (Glasgow) read a paper on

Miners' Nystagmus: Its Diagnosis and Origin.

He said that in ordinary cases of the condition diagnosis was not difficult. The oscillatory movements of the eyeball were not always present, but there were frontal and occipital headache, tremors of the head, vascular disturbances, photophobia, vertigo, and usually a history of the onset of visual disturbances. This, he thought, suggested a wide involvement of nerve centres. Photophobia was sometimes absent, but visual acuity was practically always reduced, and this latter was of considerable value in cases in which the diagnosis was doubtful. One such doubtful case was that of a miner in a district which showed little nystagmus. This man was certified, some years ago, as having miner's nystagmus by both the examining surgeon and the referee who examined him on appeal. Recently the diagnosis was questioned, and then it was found that the man's condition had altered considerably; he was using a stick for getting about, and was suffering from disturbance of innerva-

tion of some of the leg muscles. There were neither head tremors nor photophobia, but the patellar reflexes were exaggerated and ankle clonus was absent. No oscillatory movements of the eyes were evident on examination, and the positive range of convergence for the median position was excellent; but on extreme upward fixation there was definite diplopia. The pupils reacted regularly, though somewhat sluggishly, to light; there was no ptosis. There was no serious error of refraction, nor could he find tremulous movements in either eye, and their fundi were healthy. In each eye the visual acuteness was practically 6/6. There might, he said, be nystagmus with diminished visual acuteness without the case being one of miners' nystagmus. Still, given a mine-worker with nystagmus and diminished vision, the evidence of the presence of other causes of nystagmus must be satisfactory before a negative conclusion as regards miners' nystagmus was arrived at.

Visual acuteness in miners' nystagmus might be due to one of two causes, or to a combination of them. The first was, that the rapid movements of the eyes prevented the proper stimulation of the maculæ. In the second place, it must be remembered that there was, in almost all cases of the disease, considerable pain at the back of the head, and this might indicate a lesion at the pole of the occipital cortex, involving the centres concerned with visual acuteness. In one of his cases the man had excellent vision, and a certifying surgeon diagnosed the case as miners' nystagmus. With that the speaker could not agree. Only the left eye was said to be affected, and the man had been away from work four months. Diplopia was permanently present, due to an affection of the left eye, the vision of which was 6/6 (Snellen). The man had been operated upon for ethmoidal disease. There was no photophobia, no head tremors, and the man had not seen lights appear to revolve. In certain parts of the upper field of fixation there were to be seen those jerky movements which had received the name "pseudo-nystagmus." Dr. Fergus did not consider that miners' nystagmus had yet been satisfactorily explained. It did not seem to be due to either posture or defective illumination, nor to the depth of the pit in which the men worked. He had seen cases from pits which were comparatively shallow. Dr. F. Robson, of Penarth, who had conducted an admirable statistical research, attributed it to working in certain soft kinds of coal. Still, cases of it did occur in workers on hard and bright coal. A considerable number of cerebral centres seemed to be involved in the disease and those centres were probably coördinated to each other. But the causal agent did not seem to affect any centres in the medulla or cord. He had thought it might be due to a definite and specific micro-organism, and this might explain cases of the condition being more abundant in some districts than in others. In support of the idea was the fact that miners' nystagmus was accompanied by a good deal of constitutional, and even mental, disturbance. He was not aware of any post-mortem examinations having been made on cases of the disease. If such, with bacteriological examinations, were made, much light might be thrown on the subject. The blood and cerebro-spinal fluid might be examined in living subjects. The Ministry of Health, he suggested, might arrange for a competent set of men to make a careful inquiry into the matter, including an investigation of the sanitary condition of the pits where it was prevalent.

The PRESIDENT said the views and suggestions advanced by Dr. Freeland Fergus were counter to the usually accepted ideas concerning miners' nystagmus. In discussions which had been held on the subject defective illumination seemed to be agreed upon as the main cause, and it had been stated that when the illumination of a mine was improved, the incidence of nystagmus among the workers in it diminished. The idea now advanced that it might be toxæmic, and not a disease specially of the eyes, opened up a large field for thought.

Dr. F. ROBSON (Penarth) pointed out that in some coal areas in Scotland there was coal-miners' nystagmus, while in other mines all the nystagmus cases were among the men working particular seams, yet all the men were working under the same general conditions as to temperature and depth. The varied incidence seemed to be attributable to the particular environment, not to personal idiosyncrasy among the workers nor to the amount of light used. Curiously no nystagmus was reported as occurring in the coal-mines of America and those of South Africa. The disease was, however, quite frequent in New South Wales, where coal was liable to spontaneous combustion, the worked coal left for even a single shift getting quite hot. He thought the liberation of CO_2 might affect the neurons by a general lowering of the worker's vitality. Usually American mines were quite shallow, some not more than 500 feet deep, and they were excellently ventilated. This could not be said of our own.

Dr. C. F. HARFORD urged that the psychology of cases believed to be miners' nystagmus, and who ceased work because of it, should be studied.

Mr. G. H. POOLEY (Sheffield) referred to the long-continued study of the disease which had been carried out by Romiet, of Belgium, who found that after the illumination of pits was improved there was a definite diminution in the amount of miners' nystagmus. Investigations carried the lesson that claims for compensation constituted no evidence of the incidence of the disease. Statistics should be based only on an examination of all the men in the mines under review. In the condition the eye movements were always definitely undulatory, not a slow movement in one direction followed by a quick return, as seen in labyrinthine nystagmus. As to the bacterial theory, he had no doubt that coal-workers more often had wounds of the cornea infected than did steel-workers. Dealing with the psychological aspect of the subject, he said he divided the neuroses associated with miners' nystagmus into two definite groups. The first were the cases mentioned by the older writers. In these the neurosis was most intense before the man ceased work, but improved rapidly within three months of leaving the pit. But now, after men had been away six months, many developed a neurosis of a different nature, and this placed them in the second category. The longer the man was kept under observation and examination, the worse he became. He had seen cases lasting ten years who were miserable wrecks, and this he attributed to the fact that they were receiving monetary compensation.

Mr. HARRISON BUTLER said he had seen several cases of well-marked miners' nystagmus with quite good vision. If errors of refraction were corrected and the test-types placed below the line of the eyes, it would be found that many of the subjects of this condition could see well.

Mr. R. J. COULTER (Newport, Mon.) expressed his agreement with Mr. Butler, but did not agree with Mr. Pooley that corneal lacerations in miners did badly.

Mr. BERNARD CRIDLAND (Wolverhampton) said one important sign of miners' nystagmus was impaired visual acuity. With regard to the idea that the condition might be due to cerebral disturbance in the occipital region, spasm of accommodation coupled with poor vision had to be taken into consideration. The close anatomical association between the centre for memory and that for vision must be remembered in considering the part played by the cerebral cortex. Prof. J. S. Haldane had ruled out carbon-monoxide poisoning as a cause of miners' nystagmus, yet the condition was absent in candle-lighted mines, but not in those lighted by lamps. If the atmosphere of a mine would not allow a candle to burn, the man who worked in it must suffer in health. The ideas put forward by Dr. Robson deserved every consideration.

Dr. J. W. THOMAS suggested an investigation of the relationship between the incidence of miners' nystagmus and the physical characteristics of the coal face being worked. Soft coal was uniformly

black and dull, reflecting practically no light. Electric cap-lamps illuminated the coal face a hundred times better than did the other kinds of lamps used underground.

Dr. FERGUS briefly replied.

Exhibition of Cases and Specimens.

Mr. BASIL LANG showed three patients. The first had an implantation cyst which occurred after an ordinary advancement operation. The second had, apparently, congenital pigmentation in the deep retina or the superficial choroid. The third patient received a blow over an eye and it subsequently became blind. He thought it might have been a typical choroido-retinitis.

Dr. ROSA FORD exhibited two cases of congenital ankyloblepharon — namely, in a father and his child. The father, who was now aged 34, was operated upon when 4 years of age, and at the present time experienced no disability. The child had the external canthi slit last July, and had since been able to open its eyes much better, and did not raise the lids so much in the effort to see.

Miss IDA MANN showed, by means of the epidiascope, a series of slides to illustrate the development of the eye at different stages of uterine life. She noted that in the case of the father now shown the levator palpebræ superioris was absent. Probably there was a similar absence in the child, but she was a difficult patient to examine.

Mr. A. H. LEVY showed two cases of acute macular disease. The first was a boy, who at first had complained of little failure of vision, but in the ensuing three months hæmorrhage occurred, with exudate of the whole macula. The other patient was a girl, aged 18, who, in the last month, had developed a patch on the macula in the left eye, with hæmorrhage, and he was not sure as to the nature of it. Wassermann and von Pirquet tests revealed no clue to the ætiology, neither had other examinations nor the history.

SECTION OF PATHOLOGY.

A MEETING of this section was held on Nov. 18th, Dr. J. A. MURRAY, the President, being in the chair.

Dr. THOMAS LUMSDEN communicated some observations on

Cancer Cells in Vitro.

Normal tissue cells cultured in pure serum (pH 7·4 to 7·7) grow freely and divide by typical mitosis. Cancer cells, on the other hand, migrate very actively and enlarge individually, but they only rarely divide, and then chiefly by amitotic nuclear fission. The addition of embryo, autolysed tissue, or tumour extract does not either increase or diminish the growth of normal or tumour cells so long as the original fragment is present, except in so far as they act as buffers should buffering be required. No medium is at present available in which cancer cells can be cultivated indefinitely, but for the study of surviving tumour tissue serum is a convenient and satisfactory medium. The serum must not be kept for more than three weeks, since after that period, even if preserved in sealed capillary tubes, the serum deposits "asteroids"—i.e., stellate crystals of calcium salts of the fatty acids, and is then useless or harmful. Cancer cells surviving in serum are all actively amœboid; some degenerate rapidly setting free many naked nuclei, others progressively enlarge and become highly resistant to infections and other adverse conditions. Thus, cells which had been severely bombarded with γ radium rays for an hour and a half were uninjured thereby, and continued to move about actively for over a week. These large cancer cells still survive even if not re-fed for eight days, which indicates that they are not easily killed by their own waste products and that they need but little food or oxygen for a bare subsistence. Neither the presence of normal tissues nor of red blood corpuscles alters appreciably the behaviour of these cells in serum. In such symbiotic cultures normal tissues do not grow more actively than usual, which fact does not favour the view that cancer cells contain a special growth factor for normal tissues.

The PRESIDENT made a communication on

Increased and Diminished Resistance to the Induction of Cancer.

Animals in which cancer has developed spontaneously or as the result of tarring the skin are much more refractory to the carcinogenic action of tar than normal animals. If the second tarring be begun before cancer has developed from the first tarring, a second primary carcinoma can be produced in practically every case, and the time necessary is less than in the first instance—i.e., about the time the first primary carcinoma comes up the whole animal is in a state of greater susceptibility to the carcinogenic action of tar. Certain puzzling features of cancer in man (rarity of multiple primary cancer, late regional recurrence after operation and some statistical difficulties) fall into a rational sequence if we assume a phase of diminished refractoriness followed by a phase of increased refractoriness in the development of cancer in the human subject.

Mr. A. FLEMING read a paper on the Effect of Various Chemicals on the Leucocytes.

MEDICAL SOCIETY OF LONDON.

THE TREATMENT OF SENILE GANGRENE.

A MEETING of this Society was held on Nov. 24th, Dr. EUSTACE M. CALLENDER, the President, being in the chair.

Sir ANTHONY BOWLBY introduced a discussion on the treatment of senile gangrene. He said the first complete clinical description of the disease was that given 160 years ago by Dr. Percival Pott, whose name is associated with Pott's disease of the spine, Pott's fracture, and other conditions, and who was one of the teachers of John Hunter. Pott said senile gangrene was unlike the mortification from inflammation, that from external cold, from ligature or bandage, or other known and visible cause. In a few cases it made its appearance with little or no pain, but in most cases the patient felt great uneasiness through the whole foot and ankle-joint, particularly during the night, even before the parts showed any marked distemper. The first discoloured spot usually occurred at the end of one of the little toes or on the inside of one of them. From this spot the cuticle was always found to be detached, the skin beneath being of a dark red colour. The progress of the condition varied in different subjects and under different circumstances. When it spread to the upper part of the foot it was shown by tumefaction and change of colour, sometimes by vesication, but wherever it appeared one of the first marks was a detachment of the cuticle. Pott saw 20 males with it to each female, and more often in the rich than in the poor, and in great eaters than in excessive drinkers. It frequently happened in advanced life, but was by no means confined to old age. Pott thought he had observed gangrene most in those who had had flying pains in the feet which had been regarded as gout, but seldom in persons who had gout "regularly and fairly." Sir Anthony Bowlby said he would take Pott's description as the text of his remarks, since it held good to the present day as the record of a careful clinical observer.

Diffuse Obliterative Arteritis.

It was necessary to consider the forms of gangrene which were due to alterations in the calibre and in the walls of vessels, sometimes called diffuse obliterative arteritis, sometimes intermittent claudication. Cases with diffuse thickening of the vessel walls occurred in quite young subjects, and the subjects of this condition seldom lived to any considerable age. In an enormous proportion the subjects of it belonged to the Semitic race, especially those from Russia and Poland. This fact made one wonder what was the cause of this selective incidence. When in 1919 Sir

Anthony Bowlby was in New York he was told that there were under care more than a hundred such cases, many of them children, and most of them came from one of the countries named. In practically all there was a gradual closure of arteries, and not merely of the toes and feet, but of hands, fingers, nose, and ears. In intermittent claudication there was but little tendency for the disease to proceed to absolute gangrene. He knew a man with marked defect of circulation which he had had for 20 years and was no worse now than when the condition commenced. So long as this patient kept his feet up he was comparatively comfortable. Still, he could only walk a short distance without beginning to suffer pain, which soon became unbearable; he was thus largely confined to a recumbent posture.

Varieties of Senile Gangrene.

Senile gangrene could be said to occur mainly in three classes of conditions. The first was that of the old or elderly man whose circulation had never been good, who had suffered from coldness and numbness of feet, and who suddenly got a swollen, discoloured, and painful foot. That was a form not included in Pott's description. The next was that described by Pott, in which the condition began in one or more of the toes, often symmetrically, but more frequently the toe or toes of one foot, thence slowly spread to another toe, and in a week or two or a month spread to another toe. As each toe became affected it shrivelled and died, but all the time only the toes were involved. A third class of case was that in which the disease began in the toes and spread somewhat quickly from toe to toe, then, in a few days or weeks, to the foot itself.

Sir Anthony Bowlby said that, in his opinion, in every case of definite senile gangrene, one or both tibial arteries were occluded, mostly calcareous. This was not believed in by Pott. A skiagram of a case showed the arteries as calcified and well-defined lines. This calcification and occlusion of the main arteries of the leg seemed to him to be the chief cause of senile gangrene. How could the case be explained which came on suddenly? The sudden occlusion of the artery carrying a certain amount of blood had caused the sudden attack.

Management of a Case.

If this occurred in an old man it was not wise to jump to the conclusion that the condition would necessarily spread, nor that it would not. He knew cases in which a very definite opinion had been given that amputation should be done, but that was not any more true than that a case of embolic gangrene required that operation. The right course was to wait and see to what extent the collateral circulation was capable of dealing with the part. A very few days would decide the point. It was not a case of gangrene spreading from toe to toe, but one in which the whole foot was swollen, discoloured, and cold. Yet it might have retained its sensation, and if that were so there was no need to conclude that immediate amputation was indicated. In the second class of case also, in which the gangrene began in a toe and spread from toe to toe very slowly, he did not hesitate to counsel waiting. In most of the cases of the kind the part was dry; it was a more serious matter if the condition was a moist one. With regard to the third class of case, he laid down for himself a rule many years ago—namely, that where senile gangrene was not limited to the toes, but spread to the dorsum of the foot, amputation should be carried out without delay. While waiting, in the first two classes of case, what could be done for the relief of the patient's pain and discomfort? Pott found that Peruvian bark was useless in this condition, though it was the custom to use it, and he tried, with much success, opium as a fomentation and in other ways. It caused the tumefaction to subside and the parts to separate with less pain. Sir Anthony Bowlby had found nothing better than opium for these cases. It dilated the capillaries and materially aided the circulation of the blood through neighbouring vessels, and so expedited the setting up of a collateral circulation to the damaged part.

Sympathectomy and Alcohol Injection.

Within recent years sympathectomy (Larish's operation) had been advocated and carried out. It consisted of clearing the trunk of its main artery in Scarpa's triangle and of all its cellular tissue, and removing the sympathetic branches. A modification by Mr. Sampson Handley consisted of the injection of absolute alcohol. Sir Anthony Bowlby had not tried those methods, and hoped they would be discussed.

It was agreed that the diseased part should be kept dry by means of antiseptic powders, which were greatly preferable to moist dressings; and that the whole limb below the knee should be kept warm and raised in bed.

The Question of Amputation.

If the first class of case (with thrombosis) did not clear up in a short time, a large, swollen and gangrenous foot would result, and it must come off. And in the third class of case, that in which gangrene began in the toes and spread to the dorsum of the foot, he counselled immediate amputation, but would like to hear the point discussed. At what level should the amputation be carried out? The old Syme operation, amputation at the ankle-joint, was not to be encouraged. It must be remembered that in all cases there was a large flap which took much nourishment, and was difficult to keep in good condition. He considered that the Syme operation for these cases had nothing to recommend it. Should one operate below the knee or above it? The superficial femoral artery was mainly for the supply of the leg below the knee, and the tissues above the knee were supplied mainly by the profunda femoris and branches, which came in from the sciatic, gluteal, and obturator. Those vessels in the thigh were generally free from calcified conditions. The thigh would be well nourished and able to repair damage done by amputation. Therefore he felt it was better to amputate immediately above the knee; there was nothing to be gained by going far above the knee. There was objection to operating in the upper part of the leg, for the flaps which were cut were likely to be insufficiently nourished by the damaged tibials. A further objection was that if the arteries were calcified there was a real difficulty in securing them. A skiagram would often indicate which arteries were calcified and which were not. If there was calcareous degeneration of the popliteal low down, it indicated that one should go higher up for a healthy vessel to ligature. If the tibial arteries were calcareous throughout, it was doubtful if there could be satisfactory ligature of them in the leg. Therefore, if the worst came to the worst, one would amputate in the thigh. But he had seen satisfactory results from amputation in the upper part of the leg.

Discussion.

Mr. W. SAMPSON HANDLEY did not question the broad truth of Sir Anthony Bowlby's statement that senile gangrene was due to fixed organic changes in the arteries, but suggested that in many cases there was superimposed a nerve element, an element of spasm or vaso-constriction. By Larish's operation of sympathectomy the outer coat of the femoral artery was removed for a centimetre or so, which gave a vaso-dilator effect in the limb below, and the effect lasted a considerable time. It occurred to the speaker that a similar result could be attained more simply by injecting pure alcohol into the outer coat of the artery. He showed drawings of the case of a woman, aged 69, who had senile gangrene in the right foot, the symptoms having commenced ten days before admission. The lesions were on the dorsum and on the plantar surface of the foot, the gangrene extending some distance along the metatarsals and the tarsal and plantar aspects. No pulsation could be felt in any of the arteries of the right lower limb, even in the femoral. The tempera-

ture was never above 99° F. He injected alcohol into the superficial femoral. On the day following the injection the patient said she was more comfortable, and there was seen an opaque whitish band round the diseased area. Just previously to the injection the pain had been increasing. A week later the area which had been black was found to have recovered its normal colour, and the surface thermometer showed the diseased foot to be 2° warmer than the healthy one. The toes finally dropped off, and the illustration exhibited showed healthy-looking tissue; it had remained so. He had tried the same treatment in cases of Raynaud's disease, and in Bürger's disease, the condition which occurred in Polish Jews. He wondered whether the eating of rye bread had anything to do with the liability of these people to the disease. He thought there was a case to be made out for the occurrence of a spasmodic factor in senile gangrene, and the use of alcohol injection, even if it did not obviate amputation, might enable it to be done safely lower down the limb.

The PRESIDENT asked what could be done to stay gangrene when it was threatened. He quoted a case of his own in which, in a man aged 85, it supervened after influenza and pneumonia and prolonged lying in bed. Perhaps some such method as citrating the blood could be employed. The patient referred to lost four of the toes off the affected foot, but he lived three years longer.

Dr. PARKES WEBER spoke of premonitory symptoms of senile gangrene, such as intermittent claudication, and said Sampson Handley's method seemed admirably adapted to preventing this disease. In intermittent claudication, when both lower extremities were affected and there was nothing like erythromelalgia, the disease, he thought, was high up, either in the abdominal aorta or in the iliac arteries, and it was of the nature of atheroma, or atheroma with sclerosis.

Mr. J. E. H. ROBERTS accepted Sir Anthony Bowlby's definition of senile gangrene, and referred to the frequency with which calcification occurred at the bifurcation of the popliteal. He also spoke of the need for great care in handling the arteries, because of the great risk of cracking them. In thrombo-angeitis obliterans it must be remembered that the viscosity of the blood was considerably raised. Moreover, in most cases of senile gangrene there was a good deal of sugar in the urine, but after the gangrenous area was removed the sugar disappeared. If Mr. Sampson Handley's operation was applicable, it was especially so when the premonitory symptoms occurred.

Reply.

Sir ANTHONY BOWLBY congratulated Mr. Sampson Handley on the very successful case he had described and illustrated. But he thought that probably it was a case not of senile gangrene but of lodgment of an embolus in the femoral artery, especially as the onset was sudden and all the vessels there were pulseless. Still, whatever the cause, there was no doubt the injection of alcohol was very beneficial. With regard to what could be done in the early stages to prevent an extension of the gangrene, he was still of the opinion that opium was far more beneficial than any other method he knew; it improved the collateral circulation, and the patient felt the advantage of it for many months. With regard to the presence of sugar in the urine in these cases, he did not think it was sufficiently appreciated that in a large proportion of all the cases of senile gangrene there was a temporary glycosuria, and many such he had seen diagnosed as diabetic gangrene. Mostly it was a wrong diagnosis, and when operation—amputation or other—had been carried out, there was no longer glycosuria. These patients did not experience the characteristic thirst, nor the dry cracked tongue, nor did they pass the large quantities of urine which patients did with that disease. Of course, the prognosis in the non-diabetic cases was much better than in the diabetic. In the former class the condition of the tissues did not preclude amputation. In the true diabetic cases with gangrene it was usually of the moist variety; the patient had little or no resistance to the sepsis, and in the majority of cases the patient died before very long. He therefore insisted that it was of great importance to draw a distinction between cases of gangrene in patients with diabetes, and those who merely had sugar in the urine as a concomitant of the local disease.

MANCHESTER PATHOLOGICAL SOCIETY.

A MEETING of this Society was held on Nov. 12th, when Prof. W. W. C. TOPLEY delivered his presidential address on

Streptococci in Relation to Human Disease.

He pointed out that streptococci must be regarded as the first amongst pathogenic organisms as a cause of death in man and particularly in association with affections of the respiratory tract. Classification of such organisms was difficult and any classification must necessarily be inaccurate. A classification suitable for ordinary purposes was suggested. The influence of secondary streptococcal infection in influenza and measles was emphasised, and stress was laid on the importance of isolation and careful nursing precautions to prevent the spread of pneumonia in these cases. The mass of clinical and experimental evidence, he said, was overwhelmingly in favour of scarlet fever being a primary streptococcal infection; in the case of rheumatic fever, though the evidence was by no means so definite, there was much to support the view that a streptococcus was responsible. The pneumococcus group was considered, and Prof. Topley suggested that the Type I. antiserum appeared to be of definite therapeutic value. The decision as to the efficacy of pneumococcal antisera could only be arrived at by careful combined clinical and bacteriological investigation of a large number of cases.

NEWPORT MEDICAL SOCIETY.

AT the first clinical meeting of the session Mr. R. J. COULTER, the President, being in the chair, Dr. T. I. CANDY read a short communication on the

Treatment by X Rays of Menorrhagia due to Uterine Fibroids.

The type of case he considered best suited for this method of treatment was menorrhagia occurring in a patient over 40 years of age causing weakness and impairment of the general health and postponing the onset of the menopause. It was necessary to exclude the presence of malignancy and suppurative pelvic conditions. His technique was to administer at one sitting the dose necessary to produce amenorrhœa. The improved methods of measurement now available and the increase of knowledge of the biological action of X rays enabled this to be done with a considerable degree of precision. He found that the optimum time for treatment was within the first few days after cessation of menstruation. The next menstrual period came on as usual but always very much reduced in quantity. Thereafter complete amenorrhœa became established. In each of the 12 selected cases which he had treated the clinical results had been all that could be desired.

In the discussion which followed Dr. GLYN MORGAN, Dr. H. R. BURPITT, and Dr. MORRELL THOMAS took part.

Exhibition of Cases and Specimens.

Dr. MORRELL THOMAS showed an interesting pathological specimen of a case of hæmatometria following pregnancy.

Dr. CARVETH JOHNSON showed a case of aneurysm of the femoral artery associated with dilatation of the aorta.

Mr. R. J. LEE reported upon an interesting case of sarcoma of the upper jaw in which the growth retrogressed in a remarkable manner without treatment but which subsequently recurred. The diagnosis had been confirmed by pathological examination.

The PRESIDENT showed a small piece of fine copper wire which he had removed from the vitreous of a patient who had been struck on the eye by a clod of earth.

Dr. P. C. P. INGRAM showed a case of gumma of the upper lip successfully treated three years ago and which now showed, on X ray examination, extensive deposits in both lungs. Physical signs were few and it was thought to be a case of syphilis of the lungs.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on Nov. 5th. Sir DAVID WALLACE, the President, being in the chair.

Mr. A. H. H. SINCLAIR made a communication on

Intracapsular Extraction of Senile Cataract.

The speaker began with a quotation from Mackenzie's text-book of 1854, stating that there are three methods for the cure of cataract: 1. The removal of the cataract from the axis of vision. 2. The extraction of the cataract. 3. The division into fragments. It was pointed out that in the paper he wished to deal with the extraction method, in the case of senile cataract only, and by the intracapsular method in which the lens is removed complete in its capsule. Historical facts were next given, including a description of Hermann Pagenstecher's operations. The principal pioneer, he said, of the intracapsular method in modern times was Colonel Henry Smith, who began his work at Jullundur, India, in 1895 by the capsulotomy method, but having seen the intracapsular method performed by Malronez at Amritsar, became a convert to the latter method. He developed the operation on his own lines, now so well known, but stated then that the method was unsuited for juveniles.

Briefly the technique was as follows: A large incision was made with a Graefe's knife, no atropine was used and iridectomy might or might not be performed. The lens was expressed by pressure on the lower margin of the cornea by a blunt hook, either straight out or turning over in its delivery according to how the pressure was applied. Commenting on the method, Mr. Sinclair believed it to be the best in many cases, but it had to be used with great care in this country, as in many cases the zonule was very strong. A further method was described: to avoid strong pressure the extraction of the lens in its capsule effected by the application of a small vacuum pump. This method, though successful in the hands of the originators, Hulen and Barraquer, had not proved so successful in the hands of others. The suction of the best of vacuum pumps was unsteady, and the risk of the loss of vitreous was greater. Yet another method, that employed by Mr. Sinclair himself, was performed with the aid of blunt capsule forceps, for the purpose of grasping the capsule and withdrawing the lens. This method was used by Kalt, of Paris, in 1910, who designed the forceps known by his name. This method was studied by Stanculeanu, who performed a narrow iridectomy; he also examined the capsule before operation with a view to judging its toughness and its capability of standing the strain of traction. Knapp of New York, who had used the method since 1911, employing Kalt's forceps, had published a summary stating that in ten years' experience he had not found late deterioration or change which might be ascribed to the method of operation; further, there had been no vitreous changes, updrawn pupil, or iris prolapse.

Mr. Sinclair proceeded to describe his own technique. The lens was first carefully examined and the type of cataract determined as far as possible. At the operation, after a large incision, iridectomy was first performed followed by insertion of forceps, first opening and then closing with slight pressure against the lens; in this way a fold of capsule could be firmly grasped. Gentle forward traction was first employed, then, after a pause, traction was made in different directions upwards; this caused the suspensory ligaments below to give way one at a time; this step took about 30 seconds. After this the lens became pear-shaped and could be delivered with comparative ease, complete in its capsule. The forceps employed were a modification of Kalt's; they were large-bladed and toothless, slightly curved and provided with a hollow into which the capsule tissue was bunched, thus rendering the grip more efficient.

Regarding results on all cases (52), 16 obtained 6/6 vision; 18, 6/9; 6, 6/12; 7, 6/18; 2, 6/24; 2, 6/36, one case with 6/36 vision had retinal haemorrhage at the macula and one case lost the sight of the eye from severe infection. Vitreous loss occurred in seven cases; vision in these was 2, 6/9; 2, 6/18; 2, 6/24; 1, 6/36; improvement in vision took place later. In 18 cases the capsule ruptured, leaving remnants in the eye as in the capsulotomy method. In three cases the forceps failed to grasp the capsule over a swollen lens and capsulectomy was performed. Concluding, Mr. Sinclair remarked that this was the least traumatic of the intracapsular methods, and the apparatus was of the simplest. The paper was illustrated by numerous lantern slides and was concluded with a kinematograph demonstration of the whole operation.

Discussion.

Dr. W. G. SYM said he preferred the usual capsulotomy method, though undoubtedly the intracapsular method avoided the possibility of having to needle remnants afterwards; on the other hand, with the capsulotomy method, the anterior capsule could be removed and no iridectomy had to be performed.—Dr. J. V. PATERSON pointed out that this intracapsular operation was the ideal one, but was attended with such grave danger that continental papers said that it was appalling and ought not to be allowed. In the hands of a highly skilled surgeon the operation was eminently successful, but the risk was too great to be undertaken unless by the most highly skilled.—Dr. E. H. CAMERON also spoke.

Dr. CRANSTON LOW gave a communication on

Immunity and Sensitisation in Ringworm and Favus.

He stated that, although ringworm was very common in this country, little attention had been paid to changes in the body as a result of infection. He proceeded to review the work on the subject which had been done, especially in Germany and Italy, during the last 20 years, and to give some personal experiences. Favus and ringworm, he said, were apparently local conditions, and when treated by iodine or other antiseptics the lesion disappeared. But farm-workers, having been once infected by cattle ringworm, were afterwards immune. Neisser and Plato experimented on these lines and attempted a treatment by means of a sterile filtrate of a crushed culture of the fungus prepared in the same way as "Old Tuberculin"; this they called "trichophytin." It was found that when this was injected into persons suffering from deep-seated ringworm marked local, systemic, and focal reactions followed, which, however, did not occur in persons not suffering from ringworm or in those in whom the condition was superficial. This showed that some tissue changes had occurred in sufferers from the condition when deep seated—in other words, they had become sensitised to the infecting agent. Experimentation was carried out on these lines afterwards by several workers on animals and man, and it was definitely shown that after inoculation with ringworm or favus the subject became less prone to later inoculation and eventually developed an immunity. Regarding serum, it was found that in marked cases of deep-seated ringworm a positive fixation reaction was obtained with a trichophytin antigen. Dr. Low experimented to see whether a

skin-test could be obtained for diagnostic purposes in ringworm and favus of the scalp, using intracellular toxins and crushed fungus prepared by himself together with samples of trichophytin and favin prepared by Richardson and King. Results were as follows: 11 cases of small spore tinea capitis due to *Microsporon audoini* were tested; of these, four were negative, four doubtful and probably negative, and only three were positive. The tests were cutaneous. The practical value of these skin-tests was considered very doubtful. Regarding treatment, it had been found that, after injection of fungus extract, ringworm healed more quickly by stimulation of the skin to repel the disease. This was only true when the disease was deep seated. With ringworm of the scalp throughout the animal kingdom the young only were affected; in humans the disease died out spontaneously at the age of 14; treatment had been greatly shortened by means of X rays, but anything further to shorten treatment would be very acceptable. With this aim "microsporon" was injected, but the results were so disappointing that it was given up after treating five cases only. Concluding, Dr. Low stated that a deep infection with living fungus could produce changes in the blood and skin which were not true anaphylaxis but a form of sensitisation. In superficial fungus infection no sensitisation of the skin occurred, and that was the reason why ordinary ringworm of the scalp showed no tendency to spontaneous cure.

Exhibition of Cases and Specimens.

Dr. R. A. FLEMING showed a case of *Congenital Heart Disease* in a girl aged 12, which presented difficulty in diagnosis. The patient had a definite presystolic thrill and great involvement of the right heart as evidenced by X ray and electrocardiogram. In spite of this she showed no cyanosis, polycythæmia, clubbing of the fingers, or other symptoms that might be expected.

Mr. J. W. STRUTHERS showed a specimen of a *Mammary Tumour* weighing 11½ lb. The patient was a woman aged 56, who had only noticed it for two years. It was a simple tumour of a fibroid nature.

Dr. CHALMERS WATSON showed cases illustrating the ætiology and treatment of *Chronic Disease of the Nervous System*. Three patients were shown—a case of pseudo-tabes with weakness in the limbs and unsteadiness of gait, and two cases of disseminated sclerosis both with previous unsteadiness in walking and weakness of the legs. Dr. Watson made the patients walk and run to demonstrate improvement. A fourth case of disseminated sclerosis of five years' duration, when the patient had received previous treatment in the Royal Infirmary, was described. The object of the demonstration, Dr. Watson said, was not so much to emphasise the individual results as to draw attention to the principles. Treatment was directed to the correction of the various manifestations of autosepsis as revealed by physical examination and investigation of the urine and stools. This involved attention to diet, promotion of elimination, physical therapeutic measures, and, in certain cases, an attempt to increase the patient's resistance more directly by vaccine treatment. The details of treatment varied in the different cases, but the principles had uniform application.—Prof. EDWIN BRAMWELL, called upon by the President, said that if Dr. Chalmers Watson's thesis were correct, it was a most important contribution, but that otherwise the title was unfortunate and misleading. A demonstration of this kind should take the form of a communication in order that details regarding the cases and other facts upon which the conclusions were based might be presented and discussed. Prof. Bramwell was of opinion that the demonstration was in itself unconvincing.—Dr. WATSON, replying, said he merely stated facts and hoped to stimulate individual inquiry, bringing the study of nervous disease from the too specialised branch of neurology to the sphere of the general practitioner.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

A MEETING of this section was held in the Royal College of Physicians, Dublin, on Nov. 14th.

Mr. R. C. B. MAUNSELL, the President, read a paper on two cases of

Carcinoma of the Rectum,

complicated by pregnancy and treated by excision. In the first patient, a woman aged 27, three months pregnant, the growth was removed by the perineal route after preliminary colostomy, and the patient was subsequently delivered of a full-time healthy child. In the second case the age of the woman was 38, and she was three months pregnant of her eleventh child. The combined perineal and abdominal route was used for the removal of the growth, and the pregnancy ended normally in the birth of a living child.

Mr. SETON PRINGLE said that on one occasion he had removed the rectum in a case of pregnancy. The patient had been pregnant over four months, and it would have been almost impossible to deal with the growth without first removing the uterus, and this he did. He was interested to hear that the President opened the colon before proceeding with the pelvic operation, though he personally thought that by doing this there would be danger of soiling, and that it was better to leave the opening of the upper segment till the conclusion of the abdominal section of the operation. He thought the only operation which could be called a radical operation was the combined abdominal and perineal. If the patient was young, and in good condition, he carried out the combined method, but in elderly people he did the two-stage perineal operation, as described by the President. He thought that in cases of rectal cancer, or cancer low down in the colon, the sphincters should never be preserved.

Mr. HENRY STOKES said he had had no experience of cases of carcinoma of the rectum complicated with pregnancy, but some months ago he had done a two-stage operation on a fairly young woman for cancer of the rectum. She had one child, and 13 months after the operation she had another child. He believed that in such cases, after the operation had been done, if further pregnancies occurred there was no chance of sepsis.

Dr. BETHEL SOLOMONS said it was strange that in obstetrical text-books little space was devoted to the subject of cancer of the rectum as a complication of pregnancy. Usually there were a few lines stating that Cæsarean section was the treatment. The excellence of the results in the cases reported was a conclusive proof that extirpation should be practised when possible. In the second case, had radical operation been refused, Cæsarean section at term would have been the only method of treatment. The literature on the subject was very scanty. The only series of cases he could trace was in a paper in *Acta Gynaecologica Scandinavica*, 1922, i., pp. 445–458.

Mr. C. J. MACAULEY said that he had never had a case of cancer of the rectum complicated by pregnancy, but he agreed with the President in preferring rectus colostomy to iliac colostomy. Iliac colostomy would have gone too near the anterior superior spine. He did not think that the abdominal perineal operation should not be performed in people over 60, as he thought that very often in young people there was more tendency to widespread growth, and provided old people were in good condition he saw no reason why they should not stand the operation. A year and a half ago he had done an abdominal perineal operation on a man of 65, with successful results. A lot, of course, depended on the patient's physique, and the circumstances in every case were different. He personally never attempted to preserve the sphincters.

Mr. ARTHUR CHANCE said that he had recently had an opportunity of seeing ten cases of carcinoma of the rectum operated on at the Mayo Clinic. First a preliminary colostomy was done, and 14 days later a perineal incision was made. The first incision was oblique, and was made high up in the lateral wall of the abdomen. The muscles there were very deep, and therefore good adhesion was obtained. This opening was very convenient for the wearing of a colostomy belt. The incision was made large enough for the hand to be put in, and the liver and the pelvis were explored. The subsequent operation was done with the patient lying on the face, and it was done under trans-sacral anæsthesia. The patients never complained of pain, unless it was necessary to pull down the peritoneum.

Mr. W. PEARSON said that he thought every case of excision of the rectum should be dealt with by preliminary colostomy. In cases of rectal cancer, he believed in perineal removal, unless there was special indication for the double operation. In cases of males the urethra was a danger. He thought that it was very difficult to keep these cases aseptic. When the combined operation was done, it could be done all in one stage or in two stages, and although it took a little longer he thought it was better to do it in one stage. The type of patient made a great deal of difference; in thin patients the operation was much easier to do than in very fat patients.

The PRESIDENT replied.

Mr. MACAULEY read a paper on a case of a Solid Tumour of the Mesentery, and Mr. STOKES described two cases illustrating the use of Murphy's button.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting of this Institution on Nov. 20th Mr. BERNARD CHAVASSE read a paper on

Arterio-sclerosis and the Fundus Oculi.

He said that the sphygmomanometer required to be supplemented by the ophthalmoscope, which, since its electrification, was making a strong bid for more frequent use in general practice. He exhibited a series of autochrome lantern slides of paintings illustrating the main features of arterio-sclerosis as seen under magnification in the living retinal vessels; such as the well-known "copper wire" and "silver wire" arteries, "beading" of the streak of reflected light on the arteries, "corkscrew" arteries and capillaries, opacification of the arterial wall, "pipe stem" sheathing of arteries, irregularity of the arterial lumen, as well as later and final changes both in the vessels and in the fundus as a whole. Dealing with the appearances at arterio-venous crossings, he said that the S-shaped bend produced in a vein by an overlying arterio-sclerotic artery—a sign which had been described as the most important of all the signs of retinal arterio-sclerosis—was one which needed qualification. He had observed it not infrequently in healthy children. The necessary qualifications were the veiling of the vein by the ghostly arterial wall, the failure of the vein to shine darkly through the overlying arterial column, and a diminution in the calibre of the vein at the actual point of crossing. Given these qualifications, or at least the presence of other signs of arterio-sclerosis in other parts of the fundus, he agreed with Mr. Foster Moore that the sign was of great significance. He discussed its mechanical causation and suggested that the earliest stage at which one could hope to recognise it was by the absence of that optical illusion which caused the two halves of the more remote limb of any X-shaped figure to appear out of alignment. This feature, however, he felt bound to admit was not one on which much reliance could be placed without such special aids as the use of red-free light and special methods giving high magnifications. The appearance of "banking" of blood in a vein owing to its obstruction by an overlying sclerosed artery was one which he thought he had sometimes seen, but he had been unable to satisfy himself that the appearance was not in reality due to the "porpoise-like" course of a vein in and half out of retinal nerve-fibres which were assuming that cloudiness which was also a feature of arterio-sclerosis.

Dr. W. JOHNSON read a paper on

Borderline Cases in their Relation to General Medicine and Surgery.

He remarked on the light which recent psychological progress has thrown on the psychoneuroses. He reviewed the physical manifestations which were the result of emotional states, and pointed out that many patients with these symptoms were treated for medical or surgical conditions, without any attention being directed to the disordered emotional condition which was their real cause. Cases could be grouped into four types—abdominal, cardiac, cephalic, and (in women) pelvic—according to the physical symptoms which predominated. Surgical interference was to be avoided and had in some cases proved disastrous. The essential form of treatment lay in the application of the principles of mental hygiene.

Dr. R. M. MANWARING-WHITE considered the subject one of greatest importance, particularly to the general practitioner. He considered that there were hereditary tendencies, that shock, emotion, fatigue were exciting causes, but he was surprised that there had been no mention of organic disease as the underlying causative factor. He instanced *B. coli* infection of the urine, infected teeth, and other septic infections. As regards treatment, he realised also the value of suggestion, but had experienced very little success from administration of suprarenal gland. In those cases with subnormal temperature and slow pulse he had frequently found benefit from thyroid administration.

Mr. A. E. DAVIS said that in his experience the great majority of neuroses and psychoneuroses had their origin in the emotion of fear. He was opposed to the Freudian theory of a universal sexual basis in these cases, and thought that dogmatic and unproven dicta, such as Freud's "in a normal vita sexualis no neurosis is possible," were positively detrimental to the proper study and advancement of psychological knowledge. Of the two primitive instincts, that of self-preservation was of greater moment than the sexual. Fear was the sine qua non of the instinct of self-preservation and was a biological necessity for the preservation of the race or species. By mental analysis carried into the child mind—the emotional and primitive mind in development as contrasted to the later developed and acquired powers of the conscious or reasoning mind—one was enabled to trace fear plus some exciting factor as the cause of psychoneuroses. This factor might be external, such as a mental trauma, or internal and toxic in character. True, the sexual obtruded frequently in the form of masturbation, but if this conflict was submitted to further analysis, the symptoms would be found due to the sense of shame and fear of harmful consequences, fear being predominant. Phobias and neurotic symptoms could be traced either to fear or to the irritability and hyperacuity of the senses due to exhaustion of nervous centres by long-continued stress and drain of nervous energy. They were not symptoms of disease but manifestations of tiredness and exhaustion, and could be remedied by mental rest in removing the doubt. He gave instances of emotion overpowering the evidences of the physical senses. The psychoneuroses were purely the expressions of emotional disturbances, and origins must be sought in, and treatment directed to, the emotional level, or so-called subconscious mind.

ROYAL SANITARY INSTITUTE.—The next Congress of the Institute and Health Exhibition will be held at Edinburgh from July 20th to 25th, 1925, by invitation of the Magistrates and City Council.

Reviews and Notices of Books.

THE HUMAN TESTIS AND ITS DISEASES.

By MAX THOREK, M.D., Surgeon-in-Chief, American Hospital, Chicago; President, International Congress of Comparative Pathology, Rome, 1924. London and Philadelphia: J. B. Lippincott Company. 1924. Pp. 548.

THE title on the cover of this book is somewhat misleading, because by far the greater part deals with the endocrinology of the gland, and the treatment of its aberrations of function. The first two chapters give a short summary of the anatomy and histology of the testes, which in no way differs from the ordinarily accepted teachings. The third chapter, of considerable length, is devoted to the physiology of testicular secretions, and is one of the most interesting parts of the book.

The author surveys the history of the various theories of testicular function, and reviews Berthold's early work on transplantation. His discussion centres chiefly on the function of the Leydig cells, and he reports the views of Ancel and Bouin, and Steinach's results on this subject. Voronoff's and Retterer's conclusions on the origin of the internal secretion are discussed at length, and finally he concludes with his own experiments and a statement of his own views.

Chapter IV. deals with the ordinary diseases of the testicle, and is disappointing. The whole subject, from anatomical anomalies through the infections down to the growths, occupies only 97 pages, of which 31 are just statistical tables. The acute and chronic inflammations are most cursorily dealt with, and the description of the growths is poor. It would appear that the author's main interest is in the errors of internal secretion, and that this chapter, though essential to his intention, was one to be completed as quickly as possible.

The remainder of the book is devoted to the endocrinology of the gland, and the subject is dealt with in great detail. There are apparently a great number of indications for sex-gland implantation, and the author concludes, from experimental and clinical findings, that the donors must be either human or of the higher apes. He employs two main methods of technique. In one the graft is implanted in the subperitoneal tissues beneath the rectus abdominis near the deep epigastric artery, and in the other the bed is the perirenal fat just below the lower pole of the kidney. The graft is prepared by removal from the donor intact in its tunica vaginalis, which is then removed and the tunica albuginea punctured in about ten places by the cautery in order to expose the tunica vasculosa. Dr. Thorek is reticent in his expressions as to the present position of gonadal implantation, and it seems probable that the graft does not live more than, at the outside, 12 months. Yet there appear grounds for belief that in certain cases of premature senility, loss of both testes, and one or two other conditions, marked improvement may occur in a sufficiently large percentage of cases to make the operation justifiable. With regard to organotherapy by mouth or by injection, he gives the gloomiest reports, and apparently there is little to be hoped for in that direction.

The book is admirably got up, with good type and excellent illustrations. Each chapter has its own bibliography, and at the end of the book an index of authors is given separate from the ordinary index. As a standard monograph upon the diseases of the testicle it will find no place, for the ordinary diseases are not well described, and there is little or no help for the practitioner with regard to diagnosis and treatment. But wherever research work on gonadal transplantation is being carried on, and for all those engaged in the practice of prolonging or retrieving an elderly man's sexual life, this monograph will be a refuge in times of difficulty.

A VADE-MECUM OF EMERGENCIES.

Manuel de petite chirurgie et de technique médical journalière. Third edition. By P. ADIN-DELTEIL, Professor of Clinical Medicine at the Faculty of Medicine of Algeria; and P. SLUBEYRAN, Professor attached to the Faculty of Medicine of Montpellier. Paris: Masson et Cie. Pp. 927. Fr.45.

THIS is a great deal more than a text-book of minor surgery; there are, in addition to the purely surgical matter, chapters on anæsthesia, massage and re-educative methods, the treatment of syncope and of various forms of poisoning, the clinical examination of medical and surgical cases, thermometry, sero-, hydro-, and balneo-therapy, disinfection and the management of contagious diseases, and, finally, on the performance of post-mortem examinations. Certain modifications have found their way into this third edition as the result of war experience, notably in the chapters on splints and surgical apparatus, and a new chapter by Mr. Bécart on blood transfusion has been added. The instructions given are so precise and so carefully laid down that, having once read them, it would hardly be possible to err in the performance of any of the many and varied operations with which the book deals. The volume might be very useful to resident officers in hospitals and to general practitioners as a book of reference in emergencies, medical as well as surgical.

MATERIA MEDICA AND PHARMACY.

Materia Medica, Pharmacy, Pharmacology, and Therapeutics. Eighteenth edition. By WILLIAM HALE-WHITE, K.B.E., M.D. London: J. and A. Churchill. 1924. Pp. 712. 10*s.* 6*d.*

POPULAR text-books are usually known by the name of the author rather than by their medical title, but we doubt if any is so much lost in its author's name as is the book in question. Everyone knows "Hale-White," few would be able to state its title. The words eighteenth edition cut the ground from under the critic, and at the same time make praise unnecessary. The strength of "Hale-White" is its well-balanced description of each drug; its weakness is the absence of that pharmacological generalisation about groups of drugs which eases the task of the learner and tells him what to learn. In this respect it differs from its newer rivals; they tend to teach the student theories and easy paths to knowledge, but to leave him stranded as to facts. "Hale-White" teaches him the facts but allows him to wander (perhaps to stumble) among them. Possibly the small print Materia Medica might be revised and purged. Students are apt to take fright and not to learn any of the constituents of drugs, or, on the other hand, to set out blindly to try to learn them all. Two small inaccuracies remain: the strength of the compound mercury ointment has escaped correction and pelletierine tannate is still indexed wrongly. The statement that "about 5 per cent. of chloroform to 95 per cent. of air is a good mixture" does not agree with modern experimental work, which shows that 2 per cent. is the maximum strength for safety.

We shall continue to prize "Hale-White."

Essentials of Pharmacy. With Questions and Answers. Second revised edition. By CLYDE M. SNOW, Ph.G., A.M., Professor of Pharmacy, University of Illinois School of Pharmacy. London: Henry Kimpton. 1923. Pp. 752. 28*s.*

IT is debatable whether such a big book as this should be written in the form of question and answer, but granted the principle of the "quiz" method we can commend this work as well done. We calculate that there are over 9000 questions and answers, a figure which shows to what an extreme this method of teaching has been carried. Some of the questions

are on pure chemistry, others on pharmacy and dispensing, and others on the ethical and legal side of the pharmacist's art; to each of the questions the answer is added immediately. The book is well printed and well set up, facts which of themselves prevent the feeling of ennui usually created by the small type in which questions are added in many text-books. The book is written for the pharmacist; it goes far beyond what is expected of the medical student in the area of pharmaceutical work, but the contents are interesting to the medical man, and would be of greater interest if they were in compact form instead of a form suitable only for examinations. It is based on the United States Pharmacopœia and the National Formulary, and therefore contains terms and names of drugs which are unfamiliar to English ears.

BIOCHEMISTRY.

Microméthodes et semi-microméthodes. By Dr. DURUPT, ex-Chef de Laboratoire à la Faculté de Médecine. Paris: A. Poinat. 1924. Pp. 288. Fr.15.

THIS small volume contains descriptions of methods which have long since passed away, and are only of interest from an historical point of view. Practically all the methods of blood analysis are those devised by that great father of blood analysis, Ivor Bang. The book should be read by students just finishing a course of chemical pathology at the present time. They will then appreciate the thoroughness and amazing completeness of these old techniques, and be able to render to Bang the credit he deserves—a thing which most people omit to do. The book can only be regarded in the light of a memorial card.

GREAT MEDICAL MEN.

(1) *Lord Lister.* By CUTHBERT DUKES, M.D., D.P.H. (2) *William Harvey.* By R. B. HERVEY WYATT. London: Leonard Parsons. 1924. Pp. 186 and 214. 4*s.* 6*d.* each.

THESE two books form part of a series called the Roadmaker Series, the aim of which, says the publisher, "is to encourage interest in those British men and women whose lives and achievements have widened human knowledge, eased human ills, added to human resources and means of self-expression and strengthened the foundations of civilized society." Certainly, no two men have done more to widen human knowledge and ease human ills than Harvey and Lister. Much has, of course, been written about both, but the two little books before us contain a simple and vividly written account of researches which involved many years of labour before the undertakers thereof saw fruition. We notice that Dr. Dukes, in speaking of Lord Lister's father, Joseph Jackson Lister (1786–1869), (p. 25), says, in regard to his optical researches, "It was these discoveries that led to the production of the 'Achromatic Lens' and the perfection of the modern microscope." J. J. Lister certainly was the father of the modern microscope, but surely the credit of the achromatic lens belongs to Chester Moor Hall (1733) and to John Dollond, who, working independently, arrived at the same conclusions and published them about 1740. Hall had not made his discovery public. All the same Lister was the first to apply the principle to the microscope. Lord Lister's patient toil in perfecting his system is described with a simple clearness by Dr. Dukes which makes it comprehensible by any reader of ordinary intelligence.

Mr. Wyatt has a more difficult task than Dr. Dukes in explaining Harvey's discovery to lay readers, but we think that he has succeeded, and he leads up to Harvey's proof by giving a very clear account of Harvey's predecessors in the task. In one place he is led into looseness of expression—namely, on p. 31, where he says that "Hippocrates corrected Aristotle on the matter of the cardiac origin of the nerves. . . ." Seeing that Hippocrates is generally said to have been born B.C. 460 and Aristotle B.C. 384, it is hardly likely that the former would have the opportunity of correcting the latter, for he would be 96 when Aristotle was 20. Mr. Wyatt does not give the reference to Hippocrates, but he may be referring to some passage in a volume of the Hippocratic Corpus which was written after or during Aristotle's time. But the book as a whole is well done, and Mr. Wyatt supplies a most useful table of dates at the end.

JOURNALS.

BRITISH JOURNAL OF OPHTHALMOLOGY. October, 1924.—R. O'Connor: Diagnosis of Vertical Deviations of the Eyes. Want of balance of the muscles causing vertical movements in the two eyes is generally recognised as a cause of troublesome symptoms, capable of being corrected by the appropriate prescription of prisms. That such a want of balance can be latent so that it is not immediately apparent to the Maddox rod or other test but needs the prolonged occlusion of one eye to reveal it is not generally recognised. In 1920 F. W. Marlow, of Syracuse, New York State, put forward this view in the same journal, and now R. O'Connor, of San Francisco, writes in confirmation of it, citing 80 cases in which the test was applied for seven days, followed in most cases by the prescription of prisms which relieved the symptoms. In a minority of cases an advancement operation was undertaken.—Basil Lang contributes two short papers on technical points in the operative treatment of cataract, the first on a Modification of the Usual Method of Needling the Lens Capsule after Cataract Extraction, the second on a Modification of the Usual Method of Removing the Lens in the Extraction of Senile Cataract.—Microscopy of the living eye with the aid of the slit-lamp is a subject on which many workers are now engaged. Basil Graves contributes a paper on the subject, being the report in connexion with his Lang Research Scholarship. It deals with several technical details in connexion with the subject.—Besides the usual abstracts of articles from foreign journals, this number contains a letter from George Young and an editorial on the so-called medical treatment of cataract, both throwing cold water on the proposals which crop up from time to time to assist the absorption of striæ in the lens by means of eye-drops.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.—In the issue for October Major M. B. H. Ritchie points out that the Army Medical Service, on which sudden and heavy demands are made in war ("the abnormal is the rule and the normal is the exception"), is yet not autonomous; the Director-General of Medical Services has no access, of right, to the Commander-in-Chief, the tactical disposition of medical units will be ordered by the Adjutant-General after consultation with the general staff, yet the transport required to effect the necessary movements does not belong to the R.A.M.C., but must be obtained from the Quartermaster-General. Personality alone can make such combined administration run smoothly, hence the medical officers should understand the thoughts of those who direct them, and some medical officers should be sent to study war at the Staff College. The old separation of soldiers into combatant and non-combatant is out of date; all are equally exposed to risk. The great need in future wars will be the conservation of man-power; who will here give greater help than the medical officer, who has already made it possible to wage war in countries in which, as in Palestine, disaster formerly overtook every invader? He urges that medical units should be considered as "troops," not as "services," and be made autonomous, so as to draw bright young doctors into the army, away from civil practice which now attracts them more.—Dr. George Stuart, Assistant Director of Health, Palestine, tells of typhus in Palestine in 1921, chiefly at Jaffa, clinically not easy to diagnose, but recognisable by the Weil-Felix reaction at some time during the first 12 days, in 1 in 80 or over, increasing on subsequent days.—Captain S. Smith, in virtue of his experiences at Secunderabad, advises that a severe

or a suspicious sore-throat should be treated with antitoxin at once, diphtheria being commoner than usually thought, and antitoxin of most value if given early.—Captain T. O. Thompson gives an enthusiastic account of a day's fishing for "Bahmin" at Cannanore, with many good words for the Moplahs, who were recently in trouble.

SPANISH MEDICAL JOURNALS.

A BRIEF survey of the current issues of the Spanish medical periodicals which have reached us suffices to show that at all events in the larger centres of Spanish-American civilisation medicine in all its branches is well abreast of the times. These periodicals are: *La Semana Medica:* thirty-first year; Buenos Aires. *La Revista Sud Americana de Endocrinologia y Immunologia:* seventh year; monthly; Buenos Aires. *Revista de Medicina y Cirugia de la Habana:* twenty-ninth year; fortnightly. *Boletin de la Sociedad de Cirugia de Chile. Revista de Ciencias Medicas:* second year; monthly; Buenos Aires. *Estudios Medicos:* second year of new series; monthly; Murcia. *Archivos de las Enfermedadas del Corazon y de los Vasos:* Nos. I., II.; Barcelona.

Spain proper is only represented by two publications in this list—viz., *Estudios Medicos*, published at Murcia, and *Archivos de las Enfermedadas del Corazon y de los Vasos*, which appears to be the private venture of Dr. Duran Arrom, who is connected with the Institute of Practical Medicine in Barcelona, as Professor of the Pathology of the Circulation. In the latter the various problems of the heart are dealt with on the most modern lines, the papers being profusely illustrated by plates of cardiograms and sphygmographic tracings: the printing, plates, and paper are all excellent.

Estudios Medicos, which is in its second year but a revival of an older paper, is a journal of general medicine which draws its contributors from all over Spain, and has on its board representatives of all the chief centres of medical study. It is remarkable for its almost frivolously artistic appearance and the brilliant colouring of its advertising pages: merely as a specimen of typography it is really exceptional, but this does not prevent the articles contained in it from being of a solid character. Lengthy papers on the relation of medicine to criminology, and on the combined familial degenerations of the cord, and other neurological subjects, with illustrative cases, show a wide acquaintance with the work done in other countries. An illustrated article on the treatment of fractures of the femur by suspension and abduction is a satisfactory proof that the Spanish soldier is benefiting by the experience gained in the late war. Of the other contents, two long literary articles may be mentioned, one on the Don Juan type of man, and the other on the mental pathology of the works of Galdós, the novelist.

Of the South American journals, *La Semana Medica* is fairly comparable with the weekly medical journals of Europe or America. Many of the articles show keen clinical observation, and the reports of cases are, for the most part, remarkably complete. A typical number, August 7th, 1924, contains amongst others the following articles: (1) The Rôle of Phenolsulphophthalein in the Investigation of the Functions of the Kidney; (2) Cushing's Decompression Operation, with notes of two cases of fracture of the base so treated; (3) the Differential Tension in Aortic Insufficiency; (4) Two Cases of Traumatic Meningo-Encephalitis treated successfully with Electrargol and Antistreptococcic Serum; (5) Report of a Commission on the Prevalence and Prevention of Trachoma in the Argentine Republic. This report is followed by a much longer report on the whole subject by Dr. Barberini, one of the members of the Commission, to which the other members signify their assent. A sketch-map is given at the end showing roughly the prevalence and severity of the disease in the Argentine. The conclusions arrived at are, shortly, these: (1) That the disease is not autochthonous but has been introduced by the alien immigrants, large numbers of whom come from countries known to be seriously affected—e.g., Italy, Spain, and Russia, and is now widely diffused throughout the Argentine, especially the districts of Tucuman, Santa Fé, and San Juan. (2) That compulsory notification is necessary and a more rigid inspection of immigrants. The establishment of centres in the worst regions under the control of specialists is recommended where every means for the prophylaxis and cure of the disease may be adopted. (3) That the coöperation of the central and local authorities is necessary effectively to combat the disease and enforce the regulations which should be made by fresh legislation, the old law having proved ineffectual. (4) All workshops and factories should be inspected periodically and the personnel affected treated at the expense of the owners. (5) To carry out these measures requires besides a trained and disciplined personnel, persistency, method, and adequate financial arrangements.

As an indication of the progressive character of obstetric medicine in Buenos Aires, an article should be mentioned from the *Semana Medica*, of July 3rd, on Fœtal Cardiotelephony and Phono-cardiography. A question of priority between Buenos Aires and Breslau. The Spanish specialists appear on the evidence to make good their claim of having anticipated their German colleagues by some six months in what to the non-specialist appears a somewhat remarkable achievement. The illustrations in this journal, speaking generally, are not on a par with the rest of it, and leave much to be desired in the way of clearness—e.g., the cardiograms are illegible in places.

La Revista Sud Americana de Endocrinologia Immunologia y Quimioterapia is what its title implies, and appears to be well up to date. An article on the treatment of chronic trypanosomiasis and "mal de Caderas" (an equine disease) by "Bayer 205" is, perhaps, the most important in the numbers to hand. *Revista de Ciencias Medicas* deals less with clinical matters and more with general medical problems; it devotes a good deal of space to contemporary literature. The most important article is one by Dr. G. Pittaluga, on the first meeting of the Committee of Hygiene of the League of Nations, which he concludes by expressing his conviction of the value of the work done. The Bulletin of the Society of Surgery in Chile shows that the Society was founded in 1922, holding its first meeting in October, and has carried on an active existence since. It is mainly a record of the clinical work and experience of the various members. As such, it shows that the surgeons of Santiago are fully alive to the latest developments of modern surgery. In proof of this, articles may be instanced on Periarterial Sympathectomy in Varicose Ulcer of the Leg and Perforating Ulcer; two cases of Acute Pancreatitis with recovery after operation; Splenectomy in Familial Jaundice with a successful case.

Revista de Medicina y Cirugia de Habana is a monthly publication on general lines. One article is of great interest: it gives the result of operation for congenital cataract in a man of 29 with valuable details about his psychological condition when he recovered sight—a remarkable account. An article on Basal Metabolism shows a full appreciation of its importance in modern medicine.

With regard to Spanish medicine, it is difficult to fix on any standard of comparison as so little has been known of it in the past. With the exception of Ramon y Cajal, the great physiologist, it is doubtful whether any Spanish name has been heard of by a dozen Englishmen in the last 30 years. Judging, for what it is worth, from the International Congress held in Madrid in 1905, it may be said that the last 19 years have shown marked progress, and a laudable desire to keep up with modern thought. The expanding communities of Spanish South America have, no doubt, always had a higher standard in their great centres, and have probably felt to some extent the influence of the United States, where medical progress has been very rapid in the last 20 years. The diffi-

culties of language, though not really great for anyone familiar with Latin or its congeners, must always be a bar to any widespread acquaintance with Spanish medical literature; nor can it yet be said that it is worth while for anyone to learn Spanish simply in order to study that literature. Nevertheless, there are, in the periodicals under discussion, contributions which would be interesting and valuable to students of almost any branch of medicine or surgery, and these are likely to increase rather than diminish in the future. It must be remembered that there are many other Spanish journals, though those mentioned probably represent the most progressive centres, excepting Madrid, the journals of which are not amongst the number.

Though the question is commercial rather than medical, it is impossible to glance through these journals and not be struck by the fact that the advertising pages show an entire absence of any English names, whilst American, German, and French firms are largely to the fore, especially the last. The same difficulties of language, added to the fact that we have not got the metric system, probably militate against a commercial, as they do against a medical, liaison, but in the former case it might reasonably be supposed that there are substantial grounds for overcoming them with such a large market open!

ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

FURTHER SITTINGS.

(*Continued from p. 1020.*)

THE Commission [1] resumed its sittings on Tuesday, Nov. 18th, this time at 1, Whitehall-gardens, with Mr. H. P. Macmillan, K.C., in the chair.

EVIDENCE OF MEDICAL SUPERINTENDENTS OF MENTAL HOSPITALS.

The first witness was Dr. J. Francis Dixon, medical superintendent, City Mental Hospital, Humberstone, Leicestershire. He said the institution accommodated 1000 female and 350 male patients. The Chairman, remarking that the Commission was interested in the smooth working of the Lunacy Acts, asked if Dr. Dixon had any suggestions for the simplification or improvement of the code under which he worked. The witness replied that, in general, if one interpreted some of the legal enactments strictly according to the letter of the law, innumerable difficulties could be raised; but if one went just behind the letter to get at the spirit of the requirement, then it would be found that many difficulties were able to be overcome. He instanced the Continuation Order and admitted that he felt some embarrassment in signing it in cases of convalescence or recurrent cases which might have lucid intervals, lasting perhaps as long as a year. It was difficult to give a certificate of continued insanity in such cases. Nevertheless, he had no doubt as to the desirability of the continued detention of the patient, for a time at least. He frequently took advantage of the power he had of allowing patients out on trial for 48 hours at a time, especially in cases of convalescence, in order to accustom them to the normal mode of living.

The Chairman, referring to the suggestion that in the incipient stage it might be desirable to avoid the stigma of certification, asked if it would be advisable to have a continuing certificate in a modified form. He did not like forms which compelled people to state things they did not believe, and it seemed that in some cases there was doubt as to whether a patient should be certified as of unsound mind.

Dr. Dixon agreed that the form now in existence might be modified. Was it necessary to say that the patient was still of unsound mind? It seemed to him that it would be better to say "the patient is now convalescent but still requires further treatment, to which he consents."

The Chairman said it would be interesting to know whether during his long experience Dr. Dixon had encountered cases in which he, on examination of the patient, admitted he was satisfied that it was not a proper case for detention. To this Dr. Dixon replied that he had encountered cases in which he had been unable to confirm the statements made in the certificate, but that was a somewhat delicate matter, inasmuch as although a patient might have had all the qualities that had been assigned to him, yet at the particular time he examined him they might be absent. The patient might be one who was unaccountable for his actions over a short period of time. In such a case if he had to say in the first report that such a patient was, in his opinion, insane he would experience a considerable amount of difficulty. The witness agreed with the Chairman that in the matter of discharge the medical superintendent's view of the case should be the predominant element. Asked if he thought there should be facilities for independent investigation of a case at the instance of the patient or relatives, Dr. Dixon said he thought that in all probability such facilities would be most undesirable, for the reason that those who complained most about asylums were the insane.

Safeguards for Visiting Patients.

Replying to a question as to whether sufficient safeguards were provided for visiting patients and for access to them by independent medical men, Dr. Dixon said, speaking from his own experience, that there was a tendency rather to object to publicity mainly owing to the feeling that the whole thing was more or less confidential. He was, however, in favour of anything which would help to humanise the patients and produce normality, as far as it was possible to produce it, and the more the patients came into contact with the right type of people from the outside world, the better for them. He agreed that the effect of being continually in the society of those suffering from the same malady was detrimental to recovery. There were facilities for the mental treatment of patients up to a certain point, and in some cases definitely curative treatment was undertaken, such as the treatment of general paralysis by inoculation with the malaria parasite. Patients in his institution were, on admission, classified, not according to their disease, but on the amount of liberty that could be given them. Proper classification was most important and there should be adequate accommodation for that purpose. He deprecated the present machinery under which a patient had to go before a magistrate prior to certification. It seemed to him to create in the mind of the patient a feeling that he had committed some wrong and was therefore in the hands of the law, rather than entering a hospital to be treated for a disease.

The Nursing Staff.

There was now, he said, some improvement in regard to the nursing staff of mental hospitals, but he thought the senior members did not receive sufficient remuneration, while the juniors in training received, in

[1] The personnel of the Commission is as follows: The Right Hon. H. P. Macmillan, K.C., standing counsel to the Convention of Royal Burghs, Scotland (Chairman); Earl Russell; Lord Eustace Percy, M.P.; Sir Thomas Hutchison, Bt., Director of the Commercial Bank of Scotland, and Lord Provost of Edinburgh, 1921-23; Sir Humphry Rolleston, Bt., K.C.B., M.D., President of the Royal College of Physicians of London; Sir Ernest Hiley, K.B.E., at one time town clerk of Birmingham, and formerly M.P. for the Duddeston Division of that city; Sir David Drummond, C.B.E., M.D., Pro-Vice-Chancellor of the University of Durham, and formerly President of the British Medical Association; Mr. W. A. Jowitt, K.C., M.P.; Mr. F. D. MacKinnon, K.C.; Mr. H. Snell, M.P., a member of the executive committee of the Fabian Society, and formerly a lecturer for that society; Mrs. C. J. Matthew; and Miss Madeline J. Symons, of the Women's Section of the National Union of General Workers; with Mr. P. Barter, of the Ministry of Health, as secretary. All communications regarding the Commission should be addressed to The Secretary, Royal Commission on Lunacy and Mental Disorder, Ministry of Health, Whitehall, S.W. 1.

proportion, too much. It was his view that mental nursing called for a higher kind of work and greater personal qualities than did general nursing, and if the career was to attract those with the necessary qualities and education, there must be proper remuneration and some prospects. He thought it very desirable that persons suffering from incipient insanity should be able to obtain treatment without necessarily being certified. Still, he thought that in the public mind the stigma attaching to certification was due to a misconception, probably traceable to traditions associated with the malady, and that with general enlightenment such would diminish, though he did not think it would entirely disappear. The Chairman asked whether this end would not be helped by having the patients treated at first in homes or institutions which were more hospital than asylum, where they could remain for a time before being stamped as insane. The witness replied that if certification were the bugbear the matter might be carried further and have nobody certified, simply have the temporary order continually renewed. Certification was a protection to those who were dealing with the patient requiring, or who might require, restraint. At the end of last year the number of patients in his institution was 842, and during that year there were 189 admissions, of which 39 were readmissions. The recovery-rate was 37·12 per cent. of admissions. If two certificates for the rate-aided patient were favoured, the second should be signed by a specially qualified medical man, or one appointed for that purpose.

Replying to Earl Russell's suggestion that the patient instead of being described as a certified lunatic should be known as "a mental case under compulsory treatment," witness agreed it would be well to start afresh and use some other term than "lunatic."

Mental Recovery-rate.

Dr. O. G. Connell (superintendent, Norfolk Mental Hospital, Thorpe) was next examined. He said the principle of the reception order was sound, but the same procedure should be adopted for the rate-aided as for the private patient, especially in requiring two medical certificates. He said the recovery-rate in his institution in 1923 was 35 per cent. of admissions, and this year, so far, it had been 45 per cent. In some institutions the rate reached 70 per cent. This year he had received 197 patients, only seven of them being readmissions. Cases likely to benefit by treatment should not be certified, but should be received as voluntary cases. Some people who had been in the institution were quite ready to come back if there were any return of their malady. One woman in such pass pretended to commit suicide so as to cause her admission again. The witness admitted that if voluntary patients were admitted to mental hospitals the latter should have some power of detention; it would suffice if 72 hours' notice of intention to leave were given, to prevent a patient discharging himself if he had a breakdown, for that time would enable communication to be established with his relatives, or guardian, or the relieving officer. The chief difficulty in the matter of after-care was people's shyness to recommend for employment anyone who had been an inmate of an asylum. If the Mental After-care Association were sufficiently encouraged many mental hospitals would be glad to send out patients under that body's supervision. In his institution in the last three years only two cases of ill-treatment of patients had occurred, both trivial, but in each case the defaulting attendant was dismissed, as the strictest discipline was essential.

Answering Sir David Drummond, Dr. Connell said he thought the study of insanity should receive a better place in the medical student's curriculum, though admittedly the doctor's practice provided him with some experience on the subject.

The Lunacy Act a Protection to the Patient.

The Commission continued its sittings on Wednesday, when Dr. H. Devine (medical superintendent, Borough Mental Hospital, Portsmouth) was the first witness. The Lunacy Act he regarded as an almost perfect instrument of detention, and he did not doubt it protected the patient. Its chief defect from the psychiatrist's standpoint was that it insisted too much that every certifiable patient should be certified. He had only encountered one case which, at the end of a week, he could declare was not insane, and he was an evident malingerer. Still, he thought Poor-law cases, as well as private ones, should be certified by two medical men; it would avert possible public criticism on the ground of discrimination against the pauper patient. The hesitation of Poor-law authorities to go as far as certification might prejudice the patient's recovery by delaying expert treatment. He favoured such patients being brought direct to the mental hospital and being lodged in a detached part of it without certification. He proceeded to detail the procedure when patients were admitted. A maniacal case would be segregated. He was in favour of an asylum constructed as a series of villas, rather than a barrack-like structure. He said that the mental hospital which served a particular town should be in the town itself, and it was desirable that it be recognised as the centre for the treatment of all the mental illnesses of the community; especially was this so in view of the possibility of maintaining social relationships with the outside community; the more social contact the patients could have the better. In answer to the Chairman, he said he did not think every mental hospital should be expected to be a centre for research; smaller institutions would have the benefit of the equipment and the results of the more elaborate. He agreed that certification was a slur on the reputation of the certified, though it should not be. He had known even the children of a victim of puerperal insanity brought up under the idea that they were mentally abnormal. He considered that the Scottish system of simple notification, without publicity or stigma, worked well. If, however, those under this scheme objected to or resented treatment he would have them fully certified. He would not like a hostile voluntary boarder under his care unless, when that occurred, he could be certified. He said that if the Mental Treatment Bill was to be of value it must give power of detention on simple notification of people who were insane but whom it was undesirable to certify, because their condition was hopeful in regard to recovery. Establishments which took in and cared for uncertified cases should be under the control of some central or local authority.

The Chairman reminded the witness that the medical man naturally concentrated on the welfare of the patient, but the public point of view was concerned with the prevention of possible abuses.

General Hospitals and Mental Cases.

Dr. Devine replied that some asked to be taken into the asylum because they did not want to carry out their tendency to commit suicide. He thought there was good ground for the dread of the stigma of insanity, and all possible should be done to delete or minimise it. Still, he did not believe in reserving asylums for only chronic cases. He strongly favoured the idea of dealing with mental cases in general hospitals, especially those to which a teaching school was attached. And it would be good for the profession, as at present the average medical student had the most grotesque ideas on insanity.

The Chairman said the great obstacle was the long duration of mental illness, making it necessary to make provision for a long residence.

Dr. Devine said he agreed, but if this method could be employed, many cases would not reach the asylum stage. It had been successfully carried out in Edinburgh, where alcoholic psychosis, operation psychoses, and many forms of depression, cases brought in by the police, were treated in general wards. In reply to Sir Humphry Rolleston, he said he thought any institution associated with the detention of persons of unsound mind would be liable

eventually to have the same unpleasant associations in the mind of the public as asylums now had. But there was hope that the gradual enlightenment of the public on these questions would largely mitigate that feeling. Because of this prejudice, the word "nerves" was often applied to a slight degree of mind disturbance. The Maudsley Hospital would prove a means of educating the public in these matters. He fully agreed that the seriousness of mental disease was its effect on the responsibility of the individual. He thought the element of compulsion in relation to asylums was greatly exaggerated; many of the patients were thankful to get the treatment the asylum afforded. Bearing on the question of the possibility of admitting cases without certification, he said that of the last 50 female admissions 9 were willing cases, 33 were indifferent and confused, and 8 were unwilling and considered themselves the subjects of persecution; they were delusional. Answering a further question, Dr. Devine said he hoped the function of the relieving officer in this regard would be done away with; he advocated a complete dissociation of the subject from the Poor-law. A panel doctor should recommend a case for admission to the public mental hospital. In the case of notification he would have a kind of extended urgency order, thus avoiding the formality associated with the attendance of a magistrate. These patients could be transferred to a nursing home, where they could be under the supervision of some authority. In a general hospital a separate block could be set aside for them, and in a small town one or two villas could be either set apart or built for the same purpose.

He next answered a number of questions on the practice of

Sending Patients Out on Trial,

remarking that even if a patient did not come back according to promise, he was still regarded as in the custody of the asylum and steps were at once taken to recover him and have him cared for meanwhile. He did not think there was any risk of patients being detained in an asylum beyond the time at which they recovered their mental health. He did not think it was necessary to ask justices to share the responsibility in this matter. Asked as to the staff, he said it was sometimes difficult to get the right kind of people as candidates for probation, and the staff, other than the trained nurses, were a fluctuating asylum population. He agreed with Lord Russell that if voluntary treatment was not found to be quite sufficient in a particular case it would be a very good plan to enact the original steps of notification and then for the justice to suspend his order for a period longer than 14 days, for then, if anything went wrong, everything would be in order for actual certification. He declared, in answer to Mr. Snell, M.P., that some cases could not be correctly diagnosed at the first interview, and among the most difficult were the most dangerous, such as paranoiacs and those with delusions of persecution. He had three medical officers in his institution with 800 patients.

Sir Humphry Rolleston asked Dr. Devine whether he thought the Act should be modified in any way so as to protect the doctor from vexatious and unjustifiable actions while still preserving the full protection of the patient.

Dr. Devine thought such might be effected, because the doctor merely took the part of witness in the process of certification. The reluctance of doctors to certify was very great; in fact, some would not certify. He was not prepared to recommend what form such amendment should take. Asked by Sir Humphry Rolleston whether it would not be well that the second certificate should be signed by the medical officer of the institution to which it was intended the patient should go, the witness agreed. Answering further questions, he said he favoured having a clinic in association with the mental hospital, though some criticised such a proposal. His recovery-rate last year was 25 per cent., but he thought the figure would be less for this year; much depended on the kind of cases received.

Advantages of Early Treatment.

Dr. H. Wolseley-Lewis (medical superintendent, Kent County Mental Hospital, Maidstone) was next examined. He said he was present while Dr. Devine gave his evidence, and with it he largely agreed. But in speaking of mental clinics, Dr. Devine rather inferred that they should be clearing-houses for certified cases. His own notion of clinics, especially as applied to the county, was that they should be as near the homes as possible, and that they should be entirely voluntary, and free from the fear of certification. It was of great importance that cases of mental trouble should come into the range of expert treatment at quite an early stage. With that in view the public should be encouraged to resort to them voluntarily, and it would be a pity to have any formal powers of detention of any kind. He agreed it would be unfortunate to have a case sent back to home circumstances at a crisis in the illness; in such an event, the friends could be asked to remove the patient, or the case could be reported to some authority with a request to deal with it. He said that 60 per cent. of all patients admitted to his institution during 20 years were known to have been ill a month or more before admission, and that seemed to constitute a serious indictment of the present system. He meant that that large proportion had been allowed to be without expert treatment until they were bad enough to be certified; in other words, until the general practitioner had been forced to that step. The clinic should have an in-patient as well as an out-patient section, and under such an arrangement he thought a considerable number of the 60 per cent. of admissions would not have been certified. Most recurrent cases were fully aware that they were not well, and would seek treatment long before they reached a certifiable stage. At present they had nowhere to go, except to the general practitioner, who, as a rule, was not very expert in treating such conditions. He did not advocate these clinics being associated directly with the public asylums, but he thought it would be wise for the whole mental health of the community to be under one central authority, and a great benefit if it had no association with the Poor-law at all. Many large country houses might be found available for use as clinics; it would not always be necessary to build them. For puerperal mania, and such conditions, he would like to see operative some powers of temporary detention, to be exercised at the mental hospital, not at the clinic. He would like to see, in county mental hospitals, a large number of voluntary patients who were remaining as voluntary boarders. They would be certifiable people, but not necessarily certified, and he would like all such places to be open to inspection by a Government department and by the local authority too. He would like to make the asylum more popular by removing from it in the public mind the conception of hopelessness; even as it was at present, these institutions were less "suspect" than in former times. Voluntary boarders would have to have their condition periodically reported to the Board of Control, to show they continued to be fit subjects for this method of treatment. Every legal precaution should be taken in the case of those certified, and he did not think the whole of the onus should be put on the medical man, and certainly not upon the medical superintendent of the institution.

Dr. Wolseley-Lewis said that at the present time, out of his 1800 patients, 300 of the women and 200 of the men were in open-door wards, and therefore could escape if they wished to. A considerable number were allowed out on parole. Many had sufficient insight to realise that they were better off inside the asylum than they would be outside it at present. In the case of certified patients, he thought discharge should be granted in the presence of a legal authority.

Pauperised Patients.

Answering Mr. Micklem, K.C., the witness said it seemed to him to be a great hardship that a large number of patients who came to the mental hospital should be pauperised in order to get treatment, as they were not paupers. Clinics should be established by the municipal authorities or by the county. He admitted that he had found relieving officers' work in connexion with mental hospitals had been very well done; but there should be better facilities for taking patients from their homes to the mental hospital, such as by motor ambulances, and a trained staff should accompany those vehicles. At present many patients were induced to come under false pretences; were told often that they were being taken to a convalescent home. He thought certain justices of the peace should make it their business to know something about this aspect of administration.

Answering Mr. Snell, M.P., Dr. Wolseley-Lewis said it was fair to assume that of the 60 per cent. of cases who had been mentally ill a month before admission to the asylum, a fair proportion would not have been certified if early treatment had been given them. He could not commit himself, off-hand, as to the proportion, but it was quite appreciable. Asked as to the training required of the staff, he said the whole matter was dealt with in the nursing report of the Board of Control, of which committee he was a member. It was recognised that for a number of years there would still be "attendants," as distinguished from male nurses. The former were excellent up to a point, but were not highly-trained nurses.

Asked by the Chairman whether he approved, in a general way, of the recommendations of the English Lunacy Legislation Committee of the Medico-Psychological Association, 1918, he replied in the affirmative.

The L.C.C. and Lunacy Administration.

The next witness was Mr. H. F. Keene, O.B.E., Chief Officer of the London Mental Hospitals Department of the London County Council, who set out in detail the regulations and provisions under which the County Council came into relation with lunacy administration. He said there were 28 boroughs having their own special authority under the Lunacy Act. In the case of the City of London, the authority was the Common Council. The local authority must provide the necessary accommodation for pauper mental patients, and it had power to provide that for private patients also. The powers were exercised through a visiting committee. He set out in detail the duties of visiting committees.

The meeting then adjourned to Tuesday, Dec. 2nd, and Wednesday, the 3rd, at 10.30 A.M. each day.

PORTABLE WIRELESS FOR CONVALESCENT PATIENTS.

No one will dispute that broadcasting is likely to prove a comfort to the sick and a help towards convalescence, but there are certain practical difficulties in the instalment of wireless apparatus which hinder its extended use. For instance, the local programme may not be appropriate to the patient's condition, and he may not have a receiver powerful enough to enable him to select from the various broadcasting and relay stations up and down the country, although a good selection of suitable items can generally be obtained from the programme of any one station for three or four days in the week. Again, the conditions in a private house are not as favourable as those in hospital where wireless is now being "laid on" almost as a matter of routine. The ordinary apparatus requires to be connected both to earth and to an aerial, neither of which can be improvised at a moment's notice. A self-contained wireless receiver which could be carried from room to room and used with either head-phone or loud speaker would be very welcome where sickness or convalescence is concerned. We have made some little inquiry as to whether such apparatus is to be bought at a moderate price, or hired where the need is only temporary.

MESSRS. REES MACE AND CO. (50, Pall Mall, London, S.W. 1) supply a portable wireless set contained in a wooden case about 16 in. by 16 in. by 4 in., and weighing 30 lb. Placed upon a table during broadcasting hours, it is only necessary to attach a loud speaker or head-phones, to open the door of the case, and to turn a control knob when the sound comes through with perfect clearness provided the distance from the broadcasting station is not too great; we have tested it ourselves with satisfaction at a distance of eight miles, and with proper adjustment we understand that it can be used at twice the distance or more. Naturally, with an aerial the distance could be greatly increased. Something, too, depends on the loud speaker, for with a little box known as the "Celestion," about 12 in. by 5 in., a clarity of tone was realised closely simulating the actual presence in the room of the entertainers. Much ingenuity is apparent in the construction of the receiver. The batteries, which inevitably add substantially to the weight of the instrument, require attention not more than once in six months. A fuse makes it impossible to burn out the valves by careless handling, while the cushion placed between the valves and their socket minimises the risk of accidental jars. The whole adjustment can be learned by anyone in a minute or two. Three different forms of the Rees-Mace All-in Wireless Set are supplied. The one-valve set, for use with head-phones only, costs £12, and is let out on hire at 17*s.* 6*d.* per week. The two-valve set, price £19, or 21*s.* a week, has a greater volume and clearness of tone and takes a loud speaker. The three-valve, price £22, or 25*s.* a week, makes the loud speaker available at an increased range.

MESSRS. SIEMENS BROTHERS AND CO., LTD. (Woolwich, London, S.E. 18), supply an instrument at £39 (less 10 per cent. discount to hospitals which undertake not to re-sell it), measuring about 16 in. by 11 in. by 10 in., and weighing 28 lb., which contains a small internal frame aerial which can be turned to any direction, thus assisting to prevent interference, and with a range of 15 miles. The dry cells it contains last from three to four months. There are three dull emitter valves, of which one, used as a note magnifier, can be switched on and off as required. By adding plug-in coils the continental stations are caught. The apparatus is simple to regulate and there is little risk of damage from an inexperienced person.

THE WESTERN ELECTRIC COMPANY, LTD. (Connaught House, Aldwych, London, W.C. 2), supplies many interesting sets which can be used with a frame aerial, and one without, price £17 17*s.* 6*d.* (10 per cent. discount to hospitals). A suitable amplifier is supplied at £5.

THE METRO-VICK SUPPLIES LIMITED (4, Central Buildings, London, S.W. 1) supply five-valve sets ranging in price from £32 to £74, which give satisfactory results without outside aerial.

THE CITY ACCUMULATOR COMPANY (10, Rangoon-street, London, E.C. 3) is showing at the "White City" Wireless Exhibition a portable receiver for which many advantages are claimed. Weighing only 16 lb., measuring 14 in. by 12 in. by 8 in., and with a range of 20 to 25 miles using a loud speaker, this instrument is produced at a cost of £20 plus Marconi royalties of 50*s.* Components are supplied which would enable an invalid capable of doing light constructional work to assemble his own receiving instrument on a small scale. A specimen was shown of such work actually carried out by a patient while lying in bed in the Special Surgical Hospital at Shepherd's Bush; this was an excellent crystal receiver of the two-circuit variety, the wiring being particularly neat.

Many of the firms showing at the Exhibition supply components for this kind of work, one of the number being the IGRANIC ELECTRIC CO., LTD. (149, Queen Victoria-street, E.C. 4), whose radio-devices are well known among amateurs. Messrs. W. BULLEN (38, Holywell-lane, E.C. 2) devoted a whole stand to loud speakers in great variety. Another firm with devices which will appeal to the invalid constructor is Messrs. PETTIGREW AND MERRIMAN, LTD. (122, 124, Tooley-street, S.E. 1).

The Marconiphone Company Limited at the moment are unable to provide facilities for convalescent patients who may desire to listen to broadcasting. In the early days of the industry they did loan, and in many cases presented, sets to various hospitals and similar institutions, as well as giving demonstrations in Marconi House. But for some time past they have been reluctantly compelled to discontinue the practice of loans.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 29, 1924.

THE GENERAL MEDICAL COUNCIL.

THE 120th session of the General Medical Council, which was opened on Tuesday last, was presided over by Sir DONALD MACALISTER, whose presidential address will be found in another column. There is much in the programme thus outlined, and in the activities briefly alluded to, of widespread interest; taken as a whole the record shows the Council to have a steadily increasing range of duties and to be undertaking responsibilities of the most important character. The position as regards the Irish Free State and the jurisdiction of the General Medical Council is, for example, a delicate one, and the Council are rightly considering the matter in camera. It may be difficult to find the exact course which will satisfy the inclination of all, but the situation ought to be made definite without further delay. The relations of this country and Italy on the matter of reciprocity in practice are in an anomalous phase, for privileges at the present moment are being withdrawn from British practitioners in Italy which are extended to Italian practitioners in this country. Such matters require statesman-like adjustment, and the same may be said of the course to be adopted in respect of the degrees granted by certain Indian universities. For example, the recognition of the Calcutta University degrees as conferring a title to registration and qualification for practice in the United Kingdom is in risk of being withdrawn unless some argument stimulating that University to the necessary action can be speedily found.

The time of the Council is being occupied, as usual in the November session, mainly with cases of discipline where the Penal Cases Committee has found that evidence calling for inquiry and for answer on the part of a practitioner is forthcoming. In view of the statements recently made in several quarters that practitioners of high standing have disregarded the warnings of the Council in respect to advertisement, the President's reminder is timely that the Council cannot institute an inquiry without the submission of substantial prima facie evidence. We have on several occasions recently pointed out to correspondents that there was no reason to suppose that certain advertisements complained of had directly or indirectly emanated from the practitioner concerned, and more than once we have been in possession of a disclaimer to that effect before the complaint had been received. The general impression of our readers, however, is that considerable laxity now prevails, so that a further indication of awareness in the body of the General Medical Council would be timely.

MINERS' PHTHISIS ON THE RAND.

THE report[1] for 1923 of the Miners' Phthisis Medical Bureau of the Union of South Africa is packed with interesting information. The bureau is concerned, under an Act of Parliament, with the investigation of industrial pulmonary diseases on the Rand, and the report records the clinical, pathological, and statistical operations which have been carried out during the year. It is not easy reading. A considerable proportion of the 40 pages of which it is composed is occupied by tables and schedules of clinical and pathological examinations, of the incidence and distribution of silicosis and tuberculosis, of subsequent histories, and so forth. Interspersed are explanatory paragraphs, but these are so condensed as to add but little to the enlightenment of the non-technical reader. A more detailed discussion of the data supplied and of their significance—a general survey, in fact—would indeed add greatly to the value of this publication, the importance of which may not be obvious to those who have not studied carefully the previous reports.

Elaborate methods of examination and careful case records have resulted in the attainment of a high degree of excellence in diagnosis, but at the same time the possibility of errors in the clinical data can scarcely be negligible. Is it possible to differentiate invariably and with certainty between simple tuberculosis, tuberculosis with silicosis, and simple silicosis in its forms ante-primary, primary, and secondary? Inasmuch as the pathology of miners' phthisis is still uncertain, this is a matter of considerable importance in the elucidation of the disease. It would be of great interest, for example, to know whether there is a reasonable possibility of the silicotic person becoming physically normal again if he relinquishes mining for some other occupation. The report suggests that change of environment has a relatively slight effect upon the subsequent history of the majority of cases, because "the great majority of cases of simple silicosis owe their earliest detectable development to the presence of an occult tuberculous element," and goes on to say that "the miner with simple silicosis is specially liable to become a source of tuberculous infection to others." The latter statement may mean that a tuberculous infection superimposed on a state of silicosis tends to be unusually acute and to give rise to the excretion of larger numbers of bacilli than does a simple infection. But put together these quotations suggest that the diagnosis is by no means an easy matter. This opinion is strengthened by the statement that simple silicosis is diagnosable pathologically by the development of areas of more than microscopic size from the minute lesions which are present normally in dwellers in the Transvaal. "This change appears to be the result, in at least many instances, of a peculiar form of tuberculous infection generalised throughout the lung; although, unless other and more orthodox indications of tuberculosis subsequently appear, the condition is still considered to be one of simple silicosis." The clinical diagnosis of simple silicosis must rest on pathological controls, and it is reasonable to limit the pathological diagnosis of silicosis to those cases in which the condition can be recognised in the lungs by unaided vision and touch, since the majority of the inhabitants of the Rand apparently show a certain number of microscopic lesions. But, on the other hand, a hardly justifiable latitude appears to be allowed to the radiologist, for "as a result of continuous improvement in apparatus and

[1] Report upon the Work of the Miners' Phthisis Medical Bureau for the Twelve Months ending July 31st, 1923. Cape Town: Cape Times, Ltd., Government Printers. 1924. 3s.

procedure, however, it can now be alleged that if a technically satisfactory radiograph, taken within a few months of death, has not disclosed the earliest signs of simple silicosis, these will not be discovered by the pathologist. It has indeed been remarked, on more than one occasion of late, that the radiographic evidence appeared to be more pronounced than that afforded by subsequent post-mortem investigation."

From the broad pathological point of view the study of miners' phthisis is of interest mainly because of the light it may throw on the influence of accessory factors on microbic infections in general. Unfortunately the data in the report would scarcely seem capable of affording much assistance in the elucidation of this question. It may be noted that the evidence available does not lend any support to the view that silicosis and chronic interstitial nephritis are in any way related.

A CLASSICAL CASE OF MISTAKEN IDENTITY.

JUST 20 years ago, in THE LANCET of Dec. 3rd, 1904, we had occasion to comment on one of the most disquieting errors of identification in the annals of medico-legal history. A brief outline will recall the curious story. In 1877, 1895, and 1904 a man of German origin known as JOHN SMITH, and by various aliases, made a practice of robbing women, mostly prostitutes of the humbler class, of small sums of money and of rings and other articles of no great value, imposing upon them by giving himself fancy titles and by handing them what purported to be cheques, which were, of course, drawn on fictitious accounts. In 1877 SMITH was convicted and sentenced to five years' penal servitude. In 1895 he avoided detection because a man called ADOLF BECK, a Norwegian by birth, who, unfortunately for himself, was a needy adventurer of no good character, was mistaken for SMITH by one of the women whom the latter had defrauded, and was arrested on her complaint. Several other women came forward and made the same mistake, for BECK, no doubt, bore a superficial resemblance to SMITH in stature, face, and manner of dress. A communication made to the police, who had quite forgotten SMITH, caused them to identify BECK as the former convict, at a date when a loose and unmethodical system of dactylography prevailed. BECK was tried at the Old Bailey before Sir FORREST FULTON, who had prosecuted SMITH in 1877, was convicted and sentenced to seven years' penal servitude. The Common Serjeant, as Sir FORREST FULTON then was, helped to perpetuate the error of the police by shutting out the defence which Mr. (afterwards Sir) CHARLES GILL endeavoured to raise—namely, that the crimes of 1877 and those before the court, owing to the similarity of the methods adopted, must have been perpetrated by one and the same man, and that BECK was not in England when the first series were committed.

BECK went to prison as a previously convicted person, and although while at Portland he established the fact that he was not SMITH, by proving that he had not been circumcised, whereas SMITH had, he only succeeded in having his prison badge altered. At this point the Home Office and Sir FORREST FULTON were given the opportunity to set wrong right and failed to do so. BECK made every effort, as did his solicitor, to have his case properly investigated, but from his arrest to the day when he was finally declared innocent he was the victim of a lack of coördination and collation, of sympathy, industry, and intelligence on the part of police (who were least to blame), of prison authorities, lawyers, Treasury, and particularly the Home Office that gave a rude shock to some complacent people when the various stages of the muddle were gone into. This elucidation probably would never have taken place if BECK had not been arrested and tried again in 1904 for more offences of the same kind committed by SMITH. BECK was found guilty, but Mr. Justice GRANTHAM, who later professed to have had doubts about his guilt, had postponed sentence, when meanwhile SMITH, whom success must have made reckless, having continued his evil acts, never even varying his methods, was caught red-handed. An intelligent detective, Mr. KANE, then recognised the fact that SMITH and not BECK was the guilty man, and through his action at last justice was done. The interest of BECK'S case lies largely in its exposure of the fallibility of justice, however honestly and impartially administered, and of the fallibility of more or less interested or revengeful witnesses when trying to identify a prisoner upon a carelessly observed resemblance.

This case was one of the principal causes of the institution of the Court of Criminal Appeal, and is now fitly included in the excellent notable British Trials Series.[1] Mr. ERIC WATSON, whom we should describe as editor rather than as author of the volume, has contributed a clear and exhaustive introduction, and has brought together material from official sources sufficient to make the book an interesting record of an historic miscarriage of justice. Several minor points are of especial interest. For example, the "cheques" given in the two cases of 1874 and 1895–96 proclaimed themselves the work of one man, and Mr. WATSON might have made this even clearer if he had been able to include in his illustrations reproductions of one or two of these documents relating to each period. A great deal was made after BECK'S final acquittal of the point of circumcision referred to above, but comparison of the official descriptions of the two men showed that even the colour of their eyes and the distinguishing marks on their bodies differed. And if this was not enough, there were extant photographs of both taken in prison. Profile photographs of SMITH and BECK, reproduced by Mr. WATSON, show that, unless the prisoner of 1896 had entirely altered the shape of his ears in 20 years, adding to them lobes non-existent when SMITH was at Portland, a different man was being charged with exactly the same crimes in 1896 and in 1904. The wrong identification of BECK, which even eventually confused him with SMITH, was as inexcusable as was the failure of the Common Serjeant and the Home Office to recognise the true nature of his defence. The giving of evidence by accused persons, the finger-print system of identification, the Court of Criminal Appeal, and the mitigation of sentences are improvements in our penal system of which we may justly be proud, but a careful study of BECK'S story is nevertheless to be commended to lawyers and to judges.

Dr. Mary Lucas-Keene has been appointed to a chair of anatomy in the University of London, tenable at the London (R.F.H.) School of Medicine for Women. This is the first chair of anatomy to be held by a woman.

[1] Adolf Beck (1877–1904). By Eric R. Watson, LL.B., author of Eugene Aram: His Life and Trial; Member of the Medico-Legal Society. Edinburgh and London: William Hodge and Co., Ltd. 1924. Pp. 296. 10s. 6d.

Annotations.

"Ne quid nimis."

TEACHING ON CONTRACEPTION IN MEDICAL SCHOOLS.

THE need for disentangling the medical from the racial and religious aspects of contraception is manifest to those who have attempted to follow the swings of the pendulum in the libel action, Sutherland *v.* Stopes, which has come finally to rest in the House of Lords after violent oscillations. The House, by a majority, allowed the appeal from a judgment of the Court of Appeal, the result being the restoration of the judgment of the Lord Chief Justice of England for the defendants in the original libel action—Dr. Halliday Sutherland and his publishers and printers. Previous stages of this action have been recorded in THE LANCET (1923, i., 504; 1923, ii., 236), and we may have occasion to return to the consideration of the legal aspects. In the meanwhile, we would draw attention to the fact that the decision in this case has no bearing on the broad problems of birth control. The Lord Chancellor, in giving judgment, saw fit to exclude from the concern of the House "any question as to the desirability of the use of contraceptives, or as to the propriety of encouraging such use by the circulation of printed matter, or in any other way." Lord Wrenbury, however, in his dissenting judgment, commented on the indirect issues involved. He said there were cases in which the health and happiness of the woman were impaired by too rapid successions of conception. There were cases in which the parents' means did not allow of the proper maintenance, education, and advancement of more than a limited number of children. There were cases in which the mental or bodily health of the parents forbade or ought to forbid the procreation of defective children. Again, there were those who thought that in none of these cases ought control to be exercised. There were those who thought otherwise. In both of these categories will be found eminent doctors. It is unlikely that uniformity of thought could yet be present either, on the main question whether contraception is ever justifiable or even, if the principle is accepted, on the technique least likely to do harm. For example, Prof. Louise McIlroy was quoted as having stigmatised the check pessary as the most harmful method of which she had had experience; other specialists could doubtless be found who would prefer it at least to coitus interruptus. The majority of young doctors would readily admit that the subject was not referred to in their curriculum, and that they are not competent to weigh the social and domestic consequences of enjoining complete abstinence in married people who for economic or medical reasons should not produce a large number of children, against the alternative of giving instruction in appropriate methods of contraception.

A timely demand for critical instruction on this and cognate points from the medical rather than the emotional standpoint is made by Mr. C. P. Blacker in a survey of the subject published in *Guy's Hospital Gazette* of Oct. 11th. The essential point of his letter is a plea for the instruction of medical students in the principles and technique of contraception. We ourselves urged this course nearly four years ago [1] on the same grounds—that the apathy of medical men is largely responsible for the general dissemination of knowledge of birth control from an emotional rather than a medical angle. Nor is it only on this aspect of sexuology that text-books are silent. Mr. Blacker cites as untaught the period after conception during which sexual intercourse may properly be continued and the period after labour at which it may safely be resumed. Incidentally, this latter point might well have a bearing on the incidence of sepsis after childbirth. We commend Mr. Blacker's exposition of the problems of contraception as worthy of careful study. He has made out a good case for the inclusion of a chapter on birth control in every manual of obstetrics, and it is unlikely that the subject can much longer be ignored in these works.

[1] THE LANCET, 1921, i., 677.

THE HEALTH OF MERCHANT SEAMEN.

THE Conference of Port Sanitary Authorities, meeting at the Liverpool Congress of the Royal Sanitary Institute in July, forwarded to the Council of the Institute two resolutions, the first complaining of the inadequate report on the deaths of seamen put forward this year by the Board of Trade, the second asking that the health of seamen should be the care of the Ministry of Health. These resolutions have now been considered by the Parliamentary Committee of the Institute, which has suggested to the Board of Trade that the classification of the deaths of seamen should be remodelled on the lines of that adopted by the Registrar-General for the use of local authorities, and has also decided to forward to the Board of Trade and to the Ministry of Health a resolution urging that the care of the health of seamen should be given in charge of the Ministry of Health. The Royal Sanitary Institute is doing good work in thus keeping before the official gaze the need for the supervision of the health of merchant seamen.

MEASLES TWICE.

IN a festal number of the *Wiener Klinische Wochenschrift*, issued at the time of the Innsbruck meeting of the Society of German Naturalists, Prof. Johann Loos writes about second attacks of measles. He is speaking from personal experience at the Children's Clinic in the University of Innsbruck and from recent critical studies of the literature, and he answers the question submitted to him just in the same way as the author of snakes in Ireland was answered. There are, he says, no second attacks of measles. Prof. Loos does not go so far as to contend that no human being can get measles twice, but no convincing case of second attack has ever come before his own notice, and the three cases he relates, in which the opposite seemed to be true, are instructive in showing the kind of evidence on which honest but faulty conclusions are based. The first concerned a child brought to his department with undoubted measles and the statement that six months previously the child had had an attack in the clinic diagnosed as measles by one of Loos's own assistants. The notes of the case when referred to were detailed enough to show that this attack had been one of rubella; no second case of measles had followed on it. The second related to a teacher's family of nine children, who all had uncomplicated measles about the same date and recovered. A year later the eight-year-old daughter came to the clinic with a typical attack of measles. The parents were at first confident that this child had suffered along with the others, but on being pressed admitted to having overlooked the fact that she had spent her summer holiday with friends at the time of the occurrence and had consequently escaped. The third case was that of an assistant in Loos's clinic, who had what looked very like measles at the time of an epidemic in the clinic, although he had certainly had measles as a child, when his sister died of it. The absence of Koplik spots satisfied Loos that the present attack was one of influenza associated with a drug rash, and he was confirmed in this conviction by the fact that this assistant had been in contact with many cases of measles in recent years without becoming infected. Prof. Loos supports his own convincing personal experience by citing numbers of authorities who agree with him—Meissner, Bohn, Jürgens, Filatow, and others. Having critically examined the series of cases where his own experience might so readily have

led him to form a faulty conclusion, he sets aside as irrelevant all the current loose talk of second attacks. Chicken-pox and mumps he has never observed twice, and he doubts if he has ever seen a second attack of whooping-cough.

MIDWIFERY, ANCIENT AND MODERN.

THE issue by THE LANCET of a Special Supplement on Modern Methods in Abnormal and Difficult Labour has moved an archæological contributor to send us notes upon eighteenth century midwifery for contrast. The notes consist mainly of comments on the advice given in the well-known work of Hugh Chamberlen, which was itself a translation of the text-book of François Mauriceau, "sworn master Chirurgen of Paris." From the period of the later Stuarts onward to that of George II. and George III., this was the standard text-book on midwifery and the diseases of women in England, and in its English form appears as the "Diseases of Women with Child, and in Child-bed." It was first published in 1683, and the third edition is of date 1697. The translation is interesting not only because it was the source whence the early men-midwives such as Smellie and William Hunter derived their knowledge in their student days, but also as showing how rational on the whole had been the craft or practice of midwifery from remote times to a period when surgery and medicine may be said to have become modern. "The work shows," writes our correspondent, "how an ancient form of knowledge evolved and gradually became free from mediæval absurdities. Chamberlen's translation ran through several editions, but in all the preface remains unchanged. It contains the notable passage in which he refers darkly to the secret method employed by his family in cases of difficult labour. This was quoted at large by Dr. Aveling in his work on the Chamberlens, published in 1882. 'I will now take leave to offer an apology,' says Hugh Chamberlen in a closing passage of his preface, 'for not publishing the Secret I mention: we have to extract children without Hooks, where other Artists use them—viz., there being my Father and two Brothers living, that practise this Art, I cannot esteem it my own to dispose of, nor publish it without injury to them. Still,' (he continues), 'we four are the people who can serve the public in their extremities with greater safety than the persons who extract the child from the womb with the help of hooks fixed in the neck.' The Chamberlens kept their secret, the use of the midwifery forceps, till well on in the eighteenth century, when poverty compelled Hugh, the elder, to sell it to a Dutch obstetrician named Roonuysen. Thus, the preface to a work in the main rational refers to a trade secret, and in so far as it does that belongs to a vanished period of medical procedure." "Here and there throughout Mauriceau's work," continues our correspondent, "mediæval curiosities survive and are sometimes allowed to pass without protest by the translator, whose marginal notes are at other times full of common sense. Thus 'we'll now pass to convenient remedies for the belly of a new-lay'd woman,' says Mauriceau. 'All authors do appoint, immediately after delivery, the skin of a black sheep flaid alive, for this purpose, to be laid all over her belly, and to lie on four or five hours; others will have a hare-skin. Truly, I believe that by reason of the natural heat of such skins, the remedy is not bad.' But it is 'of too much trouble,' for a butcher must be at hand in the lying-in room, 'or at least in the house, that so they may have the skin very hot according to directions.' The same work likewise directs 'a small plaister of galbanum, with a little civet in the middle,' to be applied to the woman's navel, which as they imagine is very proper to keep the womb in its place, because being delighted with that smell, it draws near to it of itself." . . . "But this remedy is a little superstitious," adds Mauriceau, yet 'practice and success commend it' (comments Chamberlen). "Nor is there reason wanting to defend it; wherefore notwithstanding the author's sense, it may be successfully continued."

The use of the colour red as a cure or prophylactic takes us back to the medicine of savages. Thus a pregnant woman injured by a fall was often advised by the midwives and by some authors of Mauriceau's period "to take some crimson silk, small minced in the yolk of an egg, or the grains of scarlet [kermes, derived from "the grains of the scarlet oak," *Bailey's Dict.*, Edit. 8, 1737], and treddles of several eggs put into the yolk of one, as if that entring the stomach were able to fortify the womb and the child in it, and to keep it there." Mauriceau is of opinion that reason and truth are against this, but Chamberlen asks, if this be so, "how then do inward medicines either prevent miscarriage or forward travail?" To prevent "headmouldshot," a condition referred to in old bills of mortality, which has puzzled the moderns, a Frenchwoman often applied a piece of scarlet cloth to the child's head and kept it there for some time. Mauriceau devotes a chapter with two illustrations to headmouldshot, and entitles it "Of the mould of the head, and of the sutures being too open," the first explanation we have seen of the phrase. "Shot" is written "shotten" by Chamberlen, and "shotten" is explained by Bailey in his dictionary as "curdled," or, better still, as overlapping. Red curtains, Mauriceau notes, are hung by some round the bed of a child ill of small-pox, "because this colour doth ordinarily move the humours from the centre outwards . . . many antient as well as modern physicians attribute the cause of the disease to the residue of the menstrous blood, wherewith the infant was nourished in the mother's womb." Chamberlen, tending towards rationality, prefers green to red as being more soothing to the eyes. He notes on several occasions that French methods differ from English in such matters as swaddling and the bandaging of the baby head. Mauriceau's long description of his sister's tragic death from flooding, when before the age of 21 she was brought to bed of her *fifth* child, does not surprise his commentator, who imagines similar cases in England to be caused by the vanity and ignorance of midwives and physicians.

ON THE MUSCULATURE OF THE LUNGS.

EXCEPT in the case of asthma the pathologist and clinician are both alike inclined to overlook the importance of the musculature of the lung, and a careful piece of work by Dr. Joseph Harkavy in the *Journal of Pathology and Bacteriology* (October, 1924) is a timely contribution to this subject. Starting from the histological work of Husten, Miller, and others, the writer points out that the entire lung is extraordinarily well supplied with musculature, and goes on to ask the pertinent question what is the function of this musculature and what alteration takes place in disease? With these questions in view he investigated 176 lungs obtained from cases of cardiac disease, pneumonia, broncho-pneumonia, and pulmonary tuberculosis. Excluding the cases in which no changes in the musculature were found, the writer divided his positive findings into four groups. The first group contained lungs from cases of cardiac disease. Here was found marked increase in the musculature of the alveolar passages and of the muscle ring of the bronchiolus respiratorius, occurring most commonly in pure mitral stenosis. Elastic tissue was also found to be increased. In the second group were lungs from cardiac cases in which pulmonary induration and pleural obliteration were present, and these showed a more general increase of musculature affecting the indurated lung parenchyma, vessels and septa, and especially marked in areas of scars and indurated pleura. The third group contained cases of total pleural obliteration with evidences of old tuberculosis, in which the increased musculature was chiefly evident in the interstitium and in the quantity of the muscle sheets in the thickened pleura, with new-formed blood-vessels, multiplication of pleural elastic tissue fibres, and hypertrophy of the muscle round about the areas of compensatory emphysema. The fourth group comprised cases of emphysema, pulmonary cirrhosis

following pneumonia, anthracosis and pulmonary œdema of nephritic origin, and were characterised by the irregular nature of the muscle hypertrophy, some areas showing marked hypertrophy and others none. The changes seen were chiefly thickening of the muscle of the alveolar pillars, of the alveolar passages, especially in the vicinity of pleura and septa, wherever chronic obstruction to expiration had taken place. After discussing various possible theories of causation of hypertrophy of this system of musculature the writer points out that two forces are concerned—viz., movement of the chest wall and respiratory action of the lung proper. When the former is restrained by disease, compensatory hypertrophy of the musculature of the lung results. That this musculature takes an active part in respiration is clear, and its response to disease by increased action on the arterial side of the alveolar passages, on the large vessels of the interstitium, and the lymphatics of the septa, therefore, seems likely. Many years ago S. West [1] suggested that we might "compare the lungs with the arteries and speak of 'pulmonary tone' just as we do of 'arterial tone,' and connect the tone in the lungs as we do in the arteries, with the condition of the muscles, and possibly of the nerves." In an article containing some beautiful illustrations of the musculature of the lung, W. S. Miller [2] has further shown that the bronchial musculature is arranged very much in the form of a network made up of geodesic bands which prevent any tangential motion, thus permitting the greatest amount of extension and contraction of the bronchioles and their subdivisions. Muscle bands, indeed, penetrate much further along the ramifications of the bronchial tree than physiological text-books would lead us to suppose; they extend as sphincters to the openings of the alveoli into the bronchioles respiratorii, but there is no muscle in the walls of the air spaces. The implications of these researches may be considerable; vital capacity and the phenomena of dyspnœa as applied to emphysema and other chronic pulmonary diseases must all depend, amongst other factors, upon the bronchial musculature—an anatomical mechanism hitherto only very imperfectly understood.

NICE NOISE.

THE dreadful noise of towns becomes worse and worse. Complaints reach us from various sources of the loss of sleep occasioned thereby in hospitals and nursing homes. Some physicians and surgeons regard this noise as a serious impediment to their patients' chance of recovery, and at the least it tends to retard convalescence. Mr. E. V. Lucas has described the motor-bicycle with internal trouble as the second noisiest thing he knows; and the editor of *Psyche* includes it in a leading article with the new form of pavement breaker and alludes to the gratuitous and ever-increasing hubbub of newsboys, street organs, bells and the like in residential areas. Time was when such noises were more or less confined to business areas, but they are now ubiquitous. The remedy is hard to seek. It is impossible to fit bedrooms in nursing homes and wards in hospitals with double-paned sound-proof windows without interfering with the necessary ventilation. The patient may plug his ears and so obtain a quiet night, but it is not everyone who can tolerate the presence of a meatal tampon. It seems too much to hope that the motorist can be induced altogether to abandon the use of his hooter after dark, although, as Sir Lenthal Cheatle has pointed out, with careful driving most of the motor-horn emissions are quite unnecessary. Persons in rude health are able to focus unpleasant noise on their deaf spot and find it hard to realise, until they are ailing themselves, how noise may rack the nerves of others.

A temporary solution is probably to be found in the substitution of nice noise for horrible noise. Sir Henry Hadow's address on Wednesday at the Royal Hospital, Chelsea, was devoted to the healing influence of music, and Sir Bruce Bruce-Porter has attributed the high turnover of a hundred beds per month at the Third London General Hospital during the war to the distraction provided by gramophones and concerts. The distinguished pianist, Mr. Moissye Boguslawski, invited to the wards, at the instance of the staff of the Chicago State Hospital, never found an individual who did not respond in some way to rhythm, and Dr. Michael Grabham writes this week in our columns on personal experience of the therapeutic value of music. Folk-songs seemed to have special value. The Chicago Commissioner of Health remarks that the nurse or hospital attendant who hums or sings softly while near the patients seems to inspire confidence and contentment. That may have its risks, and all these means are only available to some on a few occasions. But the advent of wireless transmission has brought the temporary bedrid into touch with beautiful sounds by the mere turning of a button. In another column we set out some of the facilities as they exist at present for convalescent patients to obtain wireless sets. No doubt the supply will increase as the need for them is realised. The demand is sure to come.

[1] Samuel West: Diseases of Respiratory System, ii., 628.
[2] Amer. Rev. of Tuber., 1921–22, 5, 689.

EPIDEMIC DIAPHRAGMATIC PLEURISY.

IN the October number of the *American Journal of the Medical Sciences* Dr. Robert G. Torrey, of the Philadelphia General Hospital, states that during the summer of 1923 an epidemic occurrence of an acute febrile condition characterised by severe pain in the epigastrium or chest was reported to the State Board of Health of Virginia by Maude M. Kelly as observed by her in two counties of the State. A subsequent report was made under the heading of "epidemic, transient, diaphragmatic spasm," by Payne and Armstrong,[1] who regarded their series of cases as representative of a fairly widespread epidemic, and considered the condition to be a definite clinical entity. The disease was prevalent in the latter part of the summer of 1923 in the Middle Atlantic States, particularly Virginia and New Jersey, where it was popularly known by the name of "Devil's grip." Dr. Torrey, who records four illustrative cases in adults, states that the onset is sudden and often accompanied by a distinct chill, the temperature rising to 102°–104° F., and the pulse usually following the temperature. Pain is the main symptom, occurring in the epigastrium or back or in the lower part of the chest. It is aggravated by breathing or by movement. It is increased during the febrile attacks and decreased as the temperature drops. With the pain there may be marked tenderness which may persist after the pain has disappeared. There may be only one attack, but there are usually recrudescences of pain and fever occurring at intervals of 24 or 48 hours. Headache is a usual symptom and is generally frontal. Profuse sweating is characteristic and occurs late. Prostration is not marked as in influenza. There is an absence of lung involvement and pleural friction has not been heard. The knee-jerks may be diminished or lost, but promptly return to the normal. The prognosis is good. No deaths have been reported. As a rule recovery is prompt and complete. The pain is probably due to involvement of the diaphragm or diaphragmatic pleura. The headache and reflex nervous disturbances indicate some degree of nerve tissue involvement by the toxin. In the same number of the journal as Dr. Torrey's article Dr. James C. Small describes under the name of *Plasmodium pleurodyniæ* a protozoan organism which he has found within the red cells of patients suffering from the disease, different stages in the cycle of its development being observed. The organism is differentiated from those of the malarial group in its staining

[1] THE LANCET, 1923, ii., 1097.

characters, morphology, absence of pigment granules, and lack of a distinctive action on the contiguous portion of the red cell enclosing it.

EFFECT OF RICKETS ON GROWTH.

AN important addition to the literature on this subject has just been made by Dr. George Rose in his annual report to the Aberdeen Educational Authority. Following up an inquiry made in 1911 and 1912 into the incidence and consequences of rickets among 5-year-old entrants he now publishes the results of examination of the same children eight years later. The investigation was carried out in four school terms of 1911 and 1912. All entrants of 5 years of age were examined by Dr. Rose himself, special attention being given to signs of rickets. The children examined totalled 3742, a number quite sufficient to put the inquiry on a statistically sound basis, and an average of 37·4 per cent. showed signs of rickets. Children from poor homes were most frequently, and most seriously, affected. The average heights and weights of rickety and non-rickety children were then compared as follows:—

	Boys.		*Girls.*	
	Height in inches.	Weight in lbs.	Height in inches.	Weight in lbs.
Non-rickety ..	41·5	40·9	40·8	39·4
Rickety	39·9	36·7	39·5	34·7
Difference ..	1·6	4·2	1·3	4·7

Eight years later, having reached the age of 13½, the same children came up for examination by Dr. Rose, and practically the same proportion, 37 per cent., showed traces of rickets. They were again lower in weight and shorter in stature:—

	Boys.		*Girls.*	
	Height in inches.	Weight in lbs.	Height in inches.	Weight in lbs.
Non-rickety ..	56·2	82·0	57·6	83·0
Rickety	54·1	72·9	55·0	72·4
Difference ..	2·1	9·1	2·6	10·6

These investigations show how, with the exception of certain individual cases, chiefly among the well-to-do, the child who has suffered from rickets in early life will, at 13 years of age, be considerably under the average height and weight of the normal child, and Dr. Rose points out that the presence or absence of rickets is an important factor in assessing the average height and weight of older children. "While by taking thought we cannot add a cubit to our stature," he writes, nevertheless, "by proper dieting and good hygiene it would be possible to add two to two and a half inches, and from nine to ten and a half pounds, to the height and weight of over a third of our 13-year-old boys and girls, which would increase the average heights and weights in the community."

MYOSITIS INFECTIOSA.

AN account of seven cases of myositis infectiosa, treated in a hospital in Upsala, has recently been published in *Acta Chirurgica Scandinavica* (Vol. LVII., fasc. v., 1924) by Dr. Göran Holm, who points out that this term should not, according to some authorities, be applied to any and every case of metastatic infection of the muscles, but should be reserved for those cases of acute purulent inflammation of the muscles in which they are the first or only localisation of the disease. Its geographical distribution seems to be very uneven: Japanese writers have recorded as many as 250 cases. Men are more subject to it than women, and of the 56 cases collected by Dr. Holm in which the sex of the patient was recorded, as many as 38 were males. In most cases the onset of the symptoms is fairly acute; there are rigors, fever, and pain in the muscles involved. In two of Dr. Holm's cases the transition from feeling well to feeling very ill was as abrupt as if a gastric ulcer had perforated. But, as another of Dr. Holm's cases showed, and this case terminated fatally, the onset of the disease may be insidious, and for a week or more there may be ill-defined influenzal symptoms. Between these two extreme types there are various transitional forms. The first local sign is spontaneous pain in the muscles, which on palpation and active movement become still more painful. When the characteristic swelling has developed there is no longer any excuse for ascribing the pain to "rheumatism," and as the local reaction grows in intensity the muscle may become very hard. This muscular rigidity tends to disguise even a large abscess within the muscle, and though it may be difficult to demonstrate fluctuation, an incision sometimes yields much pus. Muscular rigidity is apt to prove deceptive, and in this connexion Dr. Holm refers to the case of a 9-year-old girl in whose thigh muscles a swelling, fully as large as a hen's egg, could be felt when she was admitted to hospital. Under treatment with fomentations and rest in bed the swelling disappeared almost completely, and it reappeared only after vigorous palpation in search of the tumour had again made the muscles contract. They remained hard and contracted for at least ten minutes. The large muscles of the limbs, the gluteal muscles in particular, are most subject to this condition, whereas the muscles of the abdomen and back are seldom involved. As a rule, only one muscle is diseased, but cases in which there are two or three different localisations are not altogether rare. Two of Dr. Holm's seven cases terminated fatally. Staphylococci were found in three cases, streptococci in one, and a mixed infection with staphylococci and streptococci in another. Both these last two cases were fatal. The pus was sterile in another case, and in yet another case it was reabsorbed spontaneously. The treatment indicated in most such cases is free incision with adequate drainage.

THE MEETING OF THE FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A BRIEF account of the annual meeting of the Fellows and Members of the Royal College of Surgeons will be found in another column, in which once again the gathering passed a resolution, and not for the first time unanimously, that Members should be admitted to representation on the Council of the College. We have always considered this reform desirable, and we have said so often, but not with any idea of preserving continuity of action with the distinguished founder of this paper, for he had abuses of a very different character to deal with. To-day the Council is not self-elected, nor are examinerships held by veterans who have fallen behind the learning of the time, so that methods of protest, allowed to have been legitimate in the bad old days, are no longer called for. But as to the rightness of admitting a representation of the large body of Members upon the governing body of the College, there seems to us no doubt; exclusion is an anachronism, having regard to the spirit of the times.

THE four successful candidates, together with the votes polled by each, for election as Direct Representatives for England and Wales on the General Medical Council are as follows:—(1) Dr. H. B. Brackenbury, London, 11,486; (2) Dr. R. A. Bolam, Newcastle-on-Tyne, 10,087; (3) Sir Thomas J. Verrall, Bath, 9620; (4) Dr. J. A. Macdonald, Taunton, 9143.

ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.—The seventh meeting of the Commission was held at the Home Office, Whitehall, on Nov. 20th, Lord Lawrence, of Kingsgate, in the chair. Mr. E. J. Strohmenger, Accountant-General of the Ministry of Health, was examined on a variety of matters relating to the financial and accounting arrangements of the scheme of National Health Insurance. Thereafter a beginning was made with the examination of the representatives of the Hearts of Oak Benefit Society, Mr. Hezekiah Dudley, chairman of the Executive Council, and Mr. J. P. Lewis, secretary, who dealt with various questions relating to the constitution, membership, and financial position of that society, and the extension of medical benefit to dependents of insured persons. The Commission announce that the oral evidence given at the meeting of Nov. 6th is now on sale in proof form (1*s.* 6*d.*) at H.M. Stationery Office, Adastral House, Kingsway, W.C.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

XCVIII.—THE TREATMENT OF CHRONIC BRONCHITIS AND EMPHYSEMA.

THE lot of the middle-aged or elderly bronchitic patient is a hard one and the task of his medical attendant is difficult, since the choice of treatment often lies between recommendations which are impracticable on the ground of expense, or uneconomic because they would prevent the patient from earning his living. Treatment is thus often of necessity a compromise and unsatisfactory from the patient's and, it may be, from the practitioner's points of view. Yet much can be done, even in unpromising cases, by a judicious use to the best advantage of preventive measures and palliative or remedial treatment. The association of bronchitis and emphysema is a true example of a vicious circle. The conditions of life and work in most parts of this country, especially in the towns, are often such as to fix the circle firmly in its harmful progression.

Prevention.

Climatic treatment.—Where possible, the patient should be moved from places where cold, damp, and fogs prevail to those with an equable, dry, and sunny climate, and where there are no prevailing cold winds. In this country, the health resorts on the south coast from Hastings to Falmouth or Penzance, including the Isle of Wight, and those on the Welsh coast—such as Colwyn Bay and Llandudno in the north or Tenby in the south—afford useful refuges for these patients; but even at such places they may be obliged to remain indoors for many days owing to unfavourable conditions of weather. Further afield, for those whose means permit, many of the resorts on the French and Italian Riviera, such as Hyéres, Cannes, Mentone, Nice, San Remo, and Alassio, are often recommended; but it should not be forgotten that at some of these places bitingly cold winds may occur, and that in crowded hotels catarrhal infections may be rife. Still further, the Egyptian desert stations, Mena House, Helouan, and Assouan, the Atlantic islands—Madeira, the Canaries, and the Azores, and places such as Jamaica, Cuba, and California all offer climatic conditions favourable to these patients during the months of the English winter. Patients endeavouring to escape catarrhal conditions in this country should leave before November and should not return till April at the earliest, and preferably May.

To many of the worst sufferers recommendations of this kind are impossible, from family, financial, and business reasons, and for such the conditions of life and work may require the most careful scrutiny. They may be advised to change their residence from a damp, foggy, low-lying or riverside locality to a healthy suburb or to another urban or rural district not too far away from the place of occupation. This is particularly the case where there is an asthmatic factor. It may sometimes be necessary for the patient to consider a change of occupation owing to the limitations imposed by the chronic and progressive nature of the malady. Dusty occupations are particularly to be avoided. In advanced cases where the patient is obliged to live in unsuitable places it may be necessary to keep him indoors for weeks at a time, or even for the greater part of the winter, only allowing a walk, drive, or other outing when the weather conditions are favourable.

Clothing.—Bronchitics nearly all have an almost morbid fear of "chill"—which is justified to the extent that it is generally admitted that marked chilling of the surface of the body may lead to congestion of the bronchial mucous membrane and to acute exacerbations of catarrhal processes. It becomes morbid when it leads the patient, as is so often the case, to put on extra vests, home-made or bought "chest protectors," or thick jackets of cotton-wool, medicated or otherwise. Once employed, these are difficult to discard, and, at each fresh sensation of cold, an extra layer is often applied till the patient is literally swathed in multiple wrappings. By promoting sweating, these measures render the patient uncomfortable and favour, rather than prevent, chill. Warm underwear of loose cellular type, either wool or linen, should be worn, with warm wool-lined waistcoats or cardigans in the case of men, and Shetland or other woollen spencers in the case of women. Sometimes two light cellular vests are to be preferred to one heavy impervious woollen garment. For outdoor wear, warm rather than heavy clothing should be worn. Scarves or "mufflers" are not to be encouraged, but they may be permitted, provided they are worn so as not to cause sweating.

Vaccines.—Prophylactic inoculations may afford valuable aid in the prevention of acute catarrhal infections. Where it is known that one particular organism is concerned, an autogenous vaccine may be used, but as a rule one of the stock "mixed" vaccines seems to give satisfactory results. The stock vaccine has the merit of being simpler and cheaper than an autogenous vaccine. Not a few patients, especially those with some chronic indurative process in the lungs, prove sensitive to these vaccines, and may develop acute symptoms after each dose. In such cases small doses should be used to start with in subsequent courses, and only slowly should the ordinary doses be reached. In some cases the prophylactic vaccination may have to be discarded.

Nose and throat.—The nose and throat should be carefully examined, and any abnormal condition, such as nasal obstruction, chronic diseases of the accessory sinuses or polypi, dealt with.

Diet.

Since not a few patients suffer from arteriosclerosis, heart weakness, or asthma, a light diet—poor in nitrogenous constituents—is advisable, and it is often wise to take the chief meal at midday rather than in the evening. Flatulence may promote useless cough, embarrass the heart, and increase the asthmatic or paroxysmal character of the dyspnœa. Alcohol should only be permitted in strict moderation. It is then more likely to be helpful in emergency. Smoking should be cut down or prohibited in severe cases, especially the inhaling of smoke.

Drugs.

The medicinal treatment varies with the type and degree of the condition. The classification of the cases which is usually adopted is based on that of Laennec. There is (1) the *ordinary winter cough or chronic tracheo-bronchitis*, the commonest variety. In such cases but little medicine may be necessary. A simple expectorant mixture of vin. ipecacuanhæ ℥ x., syrup. scillæ ʒ i., tinctur. camphoræ co. ℥ x., aquam chloroformi ad ℥ i., to take occasionally may be all that is necessary. Where cough is frequent, irritative, and ineffective, a dose of the well-known Brompton Hospital "mist. sodæ cum æther. chloric." taken in hot water may be helpful. It consists of sodium bicarbonate gr. x., sodium chloride gr. iii., spiritus chloroformi ℥ v., aquam anisi ad ℥ i. In cases with marked tracheitis, small doses of apomorphine (1/36–1/20 gr.) and of morphine in the form of tincturæ chloroformi et morphinæ, '85 B.P. (℥ v.–x.) are often very useful. Various demulcent or sedative lozenges, such as the black currant, the glycerine, the liquorice, the ipecacuanha, or ipecacuanha and morphine lozenge, or one with a small dose of heroin, are all of value in certain cases.

(2) *In more severe cases* with asthmatic dyspnœa or with copious nummulated muco-purulent sputum, iodides, ammonium salts (the chlorides or carbonates), and antispasmodic drugs, such as belladonna, stramonium, hyoscyamus or grindelia, may be useful.

A valuable mixture in such cases is pot. iodid. gr. iii., pot. bicarb. gr. x., ammon. carb. gr. iii., tinct. stramonii ℥ v.–x., syrup. tolut. ʒ i., aq. chlorof. ad ʒ i.

(3) *Bronchorrhœa*—the "pituitous catarrh" of older writers. This uncommon condition is a distressing one, owing to the very large quantity of sputum which is brought up. It may reach as much as 4 to 5 pints in 24 hours. It is thin, watery, frothy, and non-albuminous. Treatment seems to exert but little influence on it, but atropine, belladonna, acids, and vaccines may all be tried.

(4) *Dry catarrh*—in which little or no sputum is expectorated, but there is a chronic, distressing, and painful cough. In this type of case saline expectorants, such as the Brompton Hospital mixture above mentioned, with iodides give the best results.

Other drugs which have been employed in cases of chronic bronchitis are ammoniacum, terebene, creosote, garlic, the balsams, and the benzoates. Some of these are worth trial in cases which prove refractory. Cod-liver oil, with or without malt, is often helpful, especially in patients of thin, spare habit.

Local and Special Measures.

Counter irritation to the chest in the form of liniments often proves helpful and comforting to these patients, especially when there is retro-sternal soreness or muscular pain from violent or prolonged coughing. One of the best of these is the acetic turpentine liniment, but other stronger liniments or iodine ointments are often useful.

Dry cupping of the bases of the lungs may be useful during acute attacks, especially in older people, or those confined to bed and tending to develop hypostatic basic congestion. Poultices may also be used in similar conditions.

In cases with marked emphysema, various special contrivances have been designed to promote ventilation of the lungs—of these Kuhn's mask and the compressed air bath have proved the most helpful. The latter may help certain cases with dyspnœa and expectoration, but it is difficult to secure the treatment, and it is now not often used.

Vaccine treatment.—This seems to be of less value in treatment than in prophylaxis. It may, however, be tried cautiously in cases in which other methods fail. In this case an autogenous vaccine is to be preferred, in small doses at first.

Complications.

The chief complications for consideration are: (*a*) Attacks of acute bronchitis progressing to bronchopneumonia; (*b*) progressive emphysema; (*c*) cardiac failure; and (*d*) pulmonary tuberculosis.

(*a*) *Acute bronchitis* should be treated on ordinary lines. The patient should at once be put to bed, no matter how mild the attack may appear at the outset; saline expectorants, diaphoretics, and stimulants being given if necessary, and the physical signs watched.

(*b*) *Advancing emphysema* with increasing cyanosis demands a careful review of the patient's mode of life, occupation, and habits. In some such cases the compressed air bath proves of great value.

(*c*) *Cardiac failure*, which is more especially right-sided in these cases, requires most careful treatment. Rest, the relief of the engorged right side by venesection, leeching or purging, and the employment of cardiac tonics are the chief means at disposal. Venesection should not be employed in old, enfeebled, or cachectic cases.

(*d*) *Pulmonary tuberculosis.*—This should be suspected in cases in which the summer intermission suddenly ceases. It is wise in all cases to have the sputum examined, as it is now becoming more generally recognised that tuberculosis in the elderly often masquerades as senile bronchitis, or is masked by emphysema till it is advanced.

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Special Articles.

IS SANATORIUM TREATMENT JUSTIFIED BY ITS RESULTS?

A COMPARISON OF THE AFTER-HISTORIES OF 4000 LANCASHIRE SANATORIUM AND NON-SANATORIUM PATIENTS.

BY G. LISSANT COX, M.D. CAMB.,
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THERE have been in recent years many unfavourable opinions passed on the results of sanatorium treatment of patients suffering from pulmonary tuberculosis. Some of the more severe critics have openly stated their conviction that the money expended on this form of treatment is as good as wasted and could be better employed in other benefits to the patients by way of payment of weekly allowances or pensions, improved housing, and so on.

Fallacies of Comparative Figures.

It is unfortunate, I think, that in the past too hasty judgments have been formed on the results of sanatorium treatment based on data which gave no distinction between advanced and early cases, positive sputum and negative sputum cases, and young adults and old adults. To settle the superiority or otherwise of sanatorium treatment over other forms of treatment it would be necessary to compare one group of patients who have undergone sanatorium treatment with another group, exactly similar in age, sex, environment, location, and severity of the disease, who have received treatment other than in a sanatorium.[1] Such an experiment is not likely to be possible in this country, and any comparison we wish to make must, therefore, be based on less scientific data. The Medical Research Council have issued special reports (Nos. 33, 76, and 85) which give after-results of sanatorium treatment, but they have not yet attempted to make an investigation as to the relative merits of treatment at a sanatorium and at home. A comparison was made on a comparatively small scale by Dr. E. Ward, tuberculosis officer, Devon County Council,[2] with results unfavourable to sanatorium treatment, but the cases were not divided into age-groups, nor separated as to positive and negative sputum.

Method of this Inquiry.

For the administrative county of Lancaster, which contains a population of 1¾ millions, I have for the past three years (1921, 1922, 1923) published in my annual reports an analysis of the after-histories of a large number of patients that had undergone sanatorium treatment compared with the after-histories of patients similar, as far as possible, in age, sex, and severity of the disease that had *not* had sanatorium treatment. The patients taken for this investigation comprised all the adult cases of pulmonary tuberculosis, diagnosed as being in the early or intermediate stage of the disease, who applied to the county council for treatment during the years 1914–18, with certain necessary deductions for removals out of the county, untraceable cases, patients in whom the diagnosis subsequently was not confirmed, and those who died from causes other than tuberculosis. Patients that were in an advanced stage when first commencing treatment under the county scheme are not included in the analysis, as no useful purpose would be served thereby. Further, it is necessary to add that "sanatorium cases" mean patients that completed a stay of two months or more in a sanatorium, sent for probable arrest or cure of the disease (as distinct from a pulmonary hospital where treatment may have been given in the later stages of the disease), and

[1] THE LANCET, 1924, ii., 831.
[2] THE LANCET, 1921, i., 531.

that many of the "non-sanatorium cases" have also received treatment in a pulmonary hospital or observation hospital, or have had a stay of less than two months in a sanatorium, their treatment being interrupted for some reason or other.

After-histories of Sanatorium and Non-Sanatorium Cases.

The net numbers of cases which remained for investigation were 4067 in 1921, 3948 in 1922, and 3868 in 1923. Through the dispensary staff the position, as at the end of the years named, of each case was ascertained, and from this information the after-results were classified. Space permits the publication only of the last prepared table, that for 1923:—

Analysis of After-histories of (1) 2228 Patients who have Completed a Course of Sanatorium Treatment, Associated with Dispensary Treatment or Supervision; and (2) 1640 Patients who have Undergone Treatment at Home or in Institutions other than Sanatoriums.

Stage‡ of disease on application and sputum.†	Age-groups	Sex.	Position at end of 1923 of adult patients who applied during 1914–18 (five years). Patients who completed two months or more *sanatorium* treatment. Net* No. of patients treated.	Fit for work.	Unfit for work.	Died.	Patients who received *home* treatment. (Non-sanatorium cases.) Net* No. of patients treated.	Fit for work.	Unfit for work.	Died.
				%	%	%		%	%	%
(*a*) I. and I.S. positive.	15–25	M	65	21·5	7·7	70·8	21	4·8	—	95·2
		F	47	10·6	8·5	80·8	12	8·3	—	91·7
	25–45	M	205	39·0	12·2	48·8	90	38·9	1·1	60·0
		F	112	34·8	4·5	60·7	40	35·0	2·5	62·5
	45–65	M	69	43·5	5·8	50·7	38	21·0	—	78·9
		F	10	10·0	40·0	50·0	7	42·8	—	57·1
	Total .	M	339	36·6	10·0	53·4	149	29·5	0·7	69·8
		F	169	26·6	7·7	65·7	59	30·5	1·7	67·8
Neg. or none.	15–25	M	92	85·9	1·1	13·0	59	66·1	5·1	28·8
		F	110	86·4	—	13·6	55	69·1	3·6	27·3
	25–45	M	182	85·7	4·9	9·3	110	73·6	—	26·4
		F	207	81·1	4·3	14·5	83	73·5	2·4	24·1
	45–65	M	69	75·4	4·3	20·3	55	65·4	5·4	29·1
		F	32	96·9	—	3·1	21	61·9	—	38·1
	Total .	M	343	83·7	3·8	12·5	224	69·6	2·7	27·7
		F	349	84·2	2·6	13·2	159	70·4	2·5	27·0
(*b*) II. and II.S. positive.	15–25	M	89	3·4	1·1	95·5	75	1·3	—	98·7
		F	89	8·9	6·7	84·3	90	—	—	100·0
	25–45	M	268	18·3	5·2	76·5	223	5·4	1·8	92·8
		F	177	15·8	7·3	76·8	155	9·7	2·6	87·7
	45–65	M	136	20·6	12·5	66·9	158	5·0	3·2	91·8
		F	34	35·3	17·6	47·0	31	16·1	—	83·9
	Total .	M	493	16·2	6·5	77·3	456	4·6	1·9	93·4
		F	300	16·0	8·3	75·7	276	7·2	1·4	91·3
Neg. or none.	15–25	M	28	71·4	10·7	17·8	27	25·9	—	74·1
		F	30	60·0	6·7	33·3	42	16·7	—	83·3
	25–45	M	56	57·1	7·1	35·7	79	34·2	1·3	64·5
		F	57	63·1	5·3	31·6	64	34·4	1·6	64·0
	45–65	M	46	65·2	6·5	28·3	89	31·5	1·1	67·4
		F	18	77·8	5·5	16·7	16	62·5	6·2	31·2
	Total .	M	130	63·1	7·7	29·2	195	31·8	1·6	67·2
		F	105	64·8	5·7	29·5	122	31·9	1·6	66·4

* Net number arrived at after deducting patients left county, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and in institutions on Dec. 31st, 1923.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

‡ Classified according to the system of Turban-Gerhardt, and further subdivided into cases with slight and severe constitutional symptoms, as suggested by Philip.

Conclusions.

The conclusions which may be formed from this table and those for the two previous years may be summarised as follows:—

1. As the result of the analysis of the after-histories of adults suffering from pulmonary tuberculosis who commenced treatment under the Lancashire county scheme during the five years 1914–18, so far as comparison is possible, patients in the *early* and *intermediate* stages of the disease that have undergone a course of sanatorium treatment, even for three or four months, fare appreciably better in later years than those that have not received such treatment.

2. Differences in the mortality of the sanatorium and non-sanatorium patients are given below:—

—	Patients with negative or absent sputum. 1921	1922	1923	Patients with positive sputum. 1921	1922	1923
Percentage of sanatorium cases that had died at the end of the year stated	14·0	16·0	17·0	61·2	66·2	69·2
Percentage of non-sanatorium cases that had died at the end of the year stated	37·7	42·6	45·3	81·3	84·8	87·4

The difference in favour of sanatorium treatment is considerable for the negative or absent sputum cases, and nearly 20 per cent. for the positive sputum cases.

3. It would appear from the table that in the age-group 15–25 of the *positive* cases sanatorium treatment, merely regarded from the point of prolongation of life, is very little better than home treatment. It must never be forgotten, however, that from the more important side of prevention of the disease a stay in a sanatorium has, in the main, a definite educational result on the patient, his family, and his friends.

4. In both sanatorium and non-sanatorium cases early diagnosis is a very important factor in the successful treatment of pulmonary tuberculosis.

5. In both of the groups those patients with a negative or absent sputum throughout treatment are much more likely to remain fit for work, and less liable to succumb to the disease, than those with tubercle bacilli in the sputum.

6. Also, in both of the groups the mortality from pulmonary tuberculosis is greater among patients, aged between 15 and 25 years, with a positive sputum, than in the other age-groups.

Given reasonably early cases for treatment and an institution with a capable superintendent, the result of the investigation is in favour of sanatorium treatment.

UNIVERSITY OF BRISTOL.—Post-graduate demonstrations will be held at the Swindon Town Club on Wednesday, Dec. 3rd, at 3.15 P.M. The subject is Dyspepsia: Some Considerations for Diagnosis and Treatment, by Dr. Carey Coombs.

A WIRELESS EQUIPPED HOSPITAL.—The installation recently inaugurated at the Haywards Heath Hospital includes a four-valve wireless cabinet with head-phones connected with practically every bed in the wards, on the tidy-phone system. A movable loud speaker is included so that in the nurses' recreation-room concert and dance music can be enjoyed. The cost of the installation has been about £80. The inauguration ceremony was attended by a number of practitioners from Brighton and the surrounding district. Dr. Geoffrey Bate spoke to the patients by means of a microphone. He said they were in a hospital which was unique, because, as far as he knew, there was no other hospital in the country so completely equipped with wireless. The installation showed that they were doing everything to make the patient's stay in hospital cheerful and bright, which tended to hasten their recovery. Dr. Bate hoped it would encourage them to regain their health, but not encourage them to stay in hospital.

SURGICAL BOOTS.

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(*Concluded from p. 1085.*)

II.—GENERAL APPLICATIONS.

Shortening of the Leg.

WE will first consider simple shortening of leg without deformity of foot. If, for example, the shortening is 2½ inches, then the surgical boot should be raised inside with cork about 2 inches at the heel, 1 inch at tread, and ½ inch at toes. The tread is taken to be that part of the boot corresponding to the heads of the metatarsal bones. If shortening is more than 2½ inches, it is often more satisfactory to have the cork raising outside (Fig. 8), not inside (Fig. 9) the boot. The appearance of the boot is not so satisfactory, but the weight has been reduced, and the boot retains its shape and wears better. Shortening of the leg may be real or apparent.

FIG. 8.

Surgical boot with outside "box" or "bridge" cork.

Methods of measurement for shortening are as follows:—

(*a*) *True shortening.*—In order to be accurate measurements should be taken with a metal tape from the anterior superior spine of the ilium to the tip of the internal malleolus, with the patient recumbent and properly stripped. This measurement should be taken at least twice on each side, and if no pelvic tilting is present, it can be checked with the patient standing, by means of graduated cork blocks of known thickness.

FIG. 9.

Surgical boot with inside cork. Note the "roll" or clearance at toe.

(*b*) *Apparent shortening.* — Where pelvic tilting is present, the above measurement may be vitiated. It is necessary under these circumstances to measure from a central point such as the umbilicus to the tip of the internal malleolus. Where pelvic tilting is a fixed deformity, such as occurs following injuries or disease in or about the hip-joint, this latter measurement must be the basis for any compensatory raising of the surgical boot. Owing to the adduction of one limb and the abduction of the other, it is essential in these cases that the apparently shortened limb should be compensated for. A purely functional tilting of the pelvis should never be compensated for, unless owing to lack of satisfactory treatment in its early stages a fixed deformity with scoliosis has finally resulted.

True shortening occurs most frequently after fracture of the femur, unreduced dislocation of the hip, osteo-arthritis, and certain diseases of the hip-joint; also in fractures of the leg below the knee. In children one of the commonest causes of shortening is anterior poliomyelitis.

In ordering a cork insole or so-called cork raising, provided there is useful range of movement in hip, knee, and ankle, one can order the full amount of raising up to 2 inches. Beyond this one can leave ½ inch or a little more for the patient's power of accommodation without risk of serious spinal deformity. Shortening of less than ½ inch may ordinarily be left alone. In all raised boots it is usual to graduate the cork insole from the heel forwards, allowing a drop of from ¾ inch or more between the heel and the tread, and in front of this the cork is fashioned so as to give a roll gradually decreasing in thickness up to the toes. This makes for ease in walking, and assists the toe of the boot to escape dragging on the ground.

In cases of shortening with stiff knee (ankylosis, or where there is range of flexion of less than 35°), in order to prevent the toe of the boot catching the ground in walking, it is necessary to give at least ½ to ¾ inch less raising than the actual shortening would otherwise require. A stiff knee with no shortening may actually require a raising of ½ inch on the sound side to permit satisfactory clearance in walking.

In hyper-extension of the knee (where knee can be flexed to more than 35°) it is wise to raise the heel about ½ inch more than the actual requirements of the shortening. This assists in preventing the knee from over-extending in walking.

The question of the graduation or gradual diminishing of the cork raising from heel to toe is subject to variation in special cases, depending on the integrity of the ankle-joint, and on the condition of the dorsiflexors of the foot. In cases of much shortening it may be found advantageous both as regards weight and appearance of the boot to make the graduation sharper than usual, so that a position approaching equinus may be obtained. It has to be remembered that the patient is going to wear the boot, and his preferences have to be always considered whenever they do not conflict with actual surgical necessity. "It is sometimes necessary to fit the patient's head as well as his foot."

Flat-foot.

In attempting to explain the surgical-boot requirements which this deformity necessitates, one is at first somewhat dismayed by the seeming complexity of the subject. The conditions are simplified, however, if we adopt the definition of Sir Robert Jones,[1] who states:—

> "Impairments of the longitudinal arch are associated with a train of symptoms which are found in the various degrees of weak foot, everted foot, and flat-foot. The term flat-foot may be taken as a generic name to include all degrees of strain of the longitudinal arch of the foot. To these varying conditions different names have been given."

It is well to keep clearly in mind that whether we are dealing with flat-foot or with other deformity of the foot, it is the last stage, the obvious osseous flat-foot (which no one could miss), which rarely requires any very definite surgical attention. It is essentially the early painful conditions of foot disability for which much can be done, and in these cases little or no deformity is to be seen. It is mainly by the situation of the pain and tenderness that we make our diagnosis. A normally high arch giving way may cause more discomfort than the most pronounced flat-foot.

The essential surgical alteration to boots, as pointed out by Thomas,[2] is the crooking of the heel on the inner side; this procedure has been previously explained. It was introduced by him originally for fractures about the ankle, to correct the splay-foot deformity which so frequently followed. Subsequently he used it for the flat-foot with necessary modifications, and it is possibly now the most univer-

[1] Jones, Sir Robert: Notes on Military Orthopædics. Cassell and Co., for the British Red Cross. 1918.
[2] Thomas, Owen: Contributions to Surgery and Medicine. London: H. K. Lewis. 1883–1890. Parts I.–VIII.

sally known and adopted of all surgical alterations to boots. In the words of Thomas, its beneficial action arises not from bolstering up the arch of the foot, but by giving the foot an inward rotation. If all shoes or boots were made with a slightly crooked or oblique heel much foot trouble might be avoided. For young children especially such a modification of the ordinary shoe, combined with care and attention to the fitting round the heel, would be a decided advance towards prevention of flat-feet.

For prevention, restoration, or relief of variations from the normal symmetry of the inner longitudinal arch more can be done by specially modelling the heel and sole of the boot than by any other means. Money can be wasted on quack remedial measures, but the key of the situation is the crooked heel. In slight early cases of flat-foot the crooked and elongated heel may be sufficient. With varying degrees of severity the wedged sole patch on the inner side may be added, the turned-up insole faced with rubber, the special Thomas heel filling up the instep and "extending nearly but not quite to the ball of the big toe." A further modification is to prolong the normal stiffener of the heel upwards and inwards. In very severe cases of flat-foot in comparatively young and active persons, often due to trauma, it may be necessary to alter the heel of the boot to take an outside surgical iron with an inside T-strap, as well as to crook the heel.

In old people, and also when the deformity has become osseous, the surgeon's object is simply to fit the deformity, and to give comfort more than to attempt correction or cure. In the latter type of case the last on which the boots are made should be fitted up on the under side to correspond as nearly as possible to the shape of the sole of the foot. The heel should be rather low, well elongated and wedged with some inside stiffening. It must be carefully borne in mind that patients are not always going to find a marked surgical alteration to their boot immediately comfortable; they should be instructed not to attempt too much at first, and to persevere with what may seem at the outset to be an awkward addition to the boot.

Especially with women accustomed to high heels is it advisable to go to work very cautiously when lowering the heels or crooking them, and the alteration should be small at first, and gradually increased. Every case of flat-foot must be considered on its merits, and both the causative factor and the degree carefully investigated, otherwise the routine ordering of "crooked heels" may not always produce the desired effect.

Repairs.—The question of repairs to surgical boots is most important, and especially so with regard to boots for flat-feet. The whole desired effect of the boots may be negatived if repairs are not done early enough, or if they are not done by a surgical bootmaker who understands the requirements. A very pernicious practice is to put movable, round rubber heels on to a crooked heel; this completely destroys its efficiency.

Surgical bootmakers are by no means easy to convince, and Thomas states he had 24 years' wrangling with St. Crispin's fraternity. Explicit instructions must be given, and it is always wise to inspect the finished article to see that the instructions have been satisfactorily carried out.

Here the anterior arch of the foot is found to have flattened or even to have become convex on the plantar surface. Great relief is usually given by having a metatarsal bar added to the boot. Care must be taken to see that the bar is applied so that it comes behind the heads of the metatarsals and not under them. In many cases the metatarsal sock or pad referred to previously is very satisfactory, its action being to assist in restoring the anterior arch. As a preliminary to ordering this, it is useful to cut a small pad of felt (¼ inch thick) to the required shape to fit behind the heads of the second, third, and fourth metatarsals, fix it in position by a piece of strapping round the foot, and let the patient wear this for a few days. In addition to the metatarsal bar it is usually advisable to crook the heel, making the inner side ¼ inch higher than the outer.

Metatarsalgia: Other Conditions Requiring Surgical Boots.

The following notes may help practitioners in ordering surgical boots suitable for the following conditions:—

Partial amputation of foot.—Surgical boot made to measurement of deformity; front of boot blocked with cork faced with sponge rubber; steel plate to be let into the sole of the boot to avoid buckling of the boot at the site of amputation.

Syme's amputation.—Special boot 3–4 inches higher than normal in the upper, to give support and to hide the deformity.

Pes cavus.—If not severe enough to require operative procedures, boots to fit the deformity, heels somewhat lower than normal, front of upper well raised to avoid prominent toes, and a metatarsal bar. Curative procedures by means of boots not very satisfactory.

Drop-foot.—Simple permanent drop-foot due to external popliteal nerve injury or infantile paralysis can be corrected to enable the foot to clear the ground. This can be accomplished by means of a jointed iron with box-socket fixed into the heel of the boot, and some form of drop-foot spring attached. The boot heel requires to be well built and strong to support the pressure. A T-shaped ankle-strap, as already described, is necessary, to be attached to the boot on the opposite side to the iron. Minor degrees of drop-foot may be assisted by a drop-foot tongue fixed to the front of the boot and buckled round the upper ankle; the boot should also be well stiffened to give support. In order to assist the patient in getting his foot in and out of the boot, it is advisable to have the boot laced low, either to the toe-cap, or no toe-cap ordered, and the boot laced to the toes. A boot with Derby front is most suitable for this type of case.

Hallux valgus and rigidus.—These deformities require boots of as soft a material as possible; a concealed metatarsal bar tapering to the outer side should be ordered, the heel should be crooked on the inner side as for flat-feet, with which these conditions are usually associated; and the inner border of the boot should be straight to allow the big toe to be drawn inwards towards the middle line of the body.

Hammer-toes.—Boots should be broad at toes and well raised in front to avoid any pressure on the prominent toes—metatarsal bar added.

Pott's fracture with eversion deformity of the foot, and fracture deformity of the foot itself with eversion.—In these cases it is advisable to strengthen the heel of the boot, add a round socket on the outer side and an inside T-strap, and to supply also an outside surgical iron fitting round the upper third of the leg. In addition, it is advisable to crook the heel of the boot on the inner side.

Painful conditions in the neighbourhood of the heel.—These may be temporarily relieved by placing a cork pad in the heel of the boot inside raised ¼ to ¾ inch and well padded with sponge rubber; this may take some of the pressure off the heel and relax the tendo Achillis, if its insertion should be the seat of bursitis, &c.

In extensive paralytic and congenital deformities it is often necessary, especially in female patients, to conceal the deformity wherever possible, and this may be done by attaching the steels, &c., which have to be worn to a leather support inside and not outside the boot. It is not maintained that the surgical alterations above listed exhaust by any means the possibilities in this respect; each deformed foot has to be treated as a separate entity, and much is left to the individual ingenuity of the surgeon and the surgical bootmaker.

Below is a typical order for a boot for, say, a case of old infantile paralysis of right leg with a short leg, and drop-foot with eversion and flat-foot.

Right boot, with cork insole raised 1 inch at heel, ¼ inch at tread, rolled to the toe, to lace to cap. Crooked and elongated heel, outside box-socket, inside T-strap, and fellow boot.

Outside iron for right leg, hinged ankle, and toe-raising spring.

In conclusion, we beg to thank the Ministry of Pensions for their kind permission to publish this article; also Mr. Bird, of Messrs. Beckett and Bird, New Cavendish-street, for his practical assistance in the preparation of the drawings.

PATENT MEDICINE ADVERTISING:

DOES IT NEED CLEANING UP, AND, IF SO, HOW CAN IT BE DONE?

AT a meeting of the Publicity Club, London, held at the Hotel Cecil on Nov. 17th, with Mr. WILLIAM YOUNG in the chair, a discussion was held on this question.

The Outsider's View.

Mr. GILBERT RUSSELL said that the Publicity Club wished not to attack patent medicine advertising, but to discuss the whole question. His remarks would represent his personal opinion, not an official statement of the club. Advertisements of patent medicines could be divided into two classes—the unobjectionable type making only reasonable claims which were justified by the drugs concerned, and the undesirable type which made exaggerated or even fraudulent claims. These could be found in plenty in any weekly religious paper. A typical example was the McQuorah vibrator which was advertised some years ago to cure most diseases. The proprietor had been hounded out of America, but was estimated to have made £60,000 in this country after an extensive advertising campaign. He then attempted to repeat the process in France, but was fined £120 and imprisoned for three years. Other examples could be found in the Report of the Select Committee of the House of Commons on Patent Medicine Advertising (1914). Their criticism of many medicines still being advertised was so drastic that Mr. Russell did not dare to repeat it. Again, a well-known antibilious remedy had been described by an Edinburgh judge as "a gigantic and too successful fraud."

The most disreputable class of patent medicine proprietor often traded under many aliases. The notorious Crippen, for instance, had been aural surgeon to the Droué Institute and was also known as M. Frankel. A most undesirable practice, which the Committee had recommended should be made illegal, was the advertisement of drugs as cures for diseases such as cancer, consumption, epilepsy, &c., which were known to be incurable by drugs. Mr. Russell quoted several advertisements of this class. Such advertisements were in no way exceptional and did much harm to the whole profession of advertising. Every lie harmed the honest advertiser, and owing to the exaggeration and frauds of patent medicine advertisers a growing section of the public was refusing to believe any advertisements at all.

The Select Committee's report had been a most devastating exposure of the subject, but had shown that there was at present no legal remedy. They had recommended that it should be made a breach of the law to give a false or misleading trade description of any remedy, and further, that patent medicine proprietors should be obliged to lodge with the Ministry of Health the formula of every remedy. It would thus become the duty of the Ministry of Health to watch patent medicine advertising and to prosecute when necessary.

Mr. Russell said that with regard to the deposition of their formulæ many manufacturers would probably object, but he did not see any real reason against it, since the Ministry of Health could be trusted as much as the Patent Office. Indeed, in many foreign countries the deposition or publication of the formulæ of proprietary medicines was already demanded by law. The above was a legal remedy, but it might be better still if advertisers would themselves produce a remedy. At present it was too difficult for an advertisement manager to refuse undesirable advertisements, but if a censorship board, composed of advertisers and manufacturers were formed to decide on a list of such advertisements as they considered objectionable, the difficulty would disappear, since managers could say they were not allowed to accept certain advertisements. Mr. Russell thought that such a board might succeed in spite of obvious difficulties. Some remedy was certainly needed, for while advertisements in general had undoubtedly been a social good, one exception must be admitted—namely, patent medicine advertisements.

The Medical View.

Dr. ALFRED COX (Medical Secretary, British Medical Association) said he would discuss the subject from three points of view—as a doctor, as a citizen, and as one who had to censor advertisements from the professional point of view. He considered the Select Committee's report on the subject the strongest House of Commons report he had ever seen, and was delighted with it. It should be remembered that the Committee was mainly composed of business men and newspaper proprietors. As a doctor he objected to patent medicine advertising because it was counter to the public interest. For instance, it involved long-distance diagnosis and treatment of disease by post. Every medical man would agree that this was impossible as disease was too complicated and variable. Again, owing to reliance on patent medicines patients sometimes postponed their application for proper treatment until too late, with disastrous results, as, for instance, in cancer or consumption. Dr. Cox then quoted from the Committee's report a number of most undesirable advertisements, including one well-known remedy whose proprietor had been arrested in America for fraud, and by pleading guilty of fraud had escaped with a fine. Another class of danger was illustrated by cough mixtures, which were advertised for all sorts of cough. Now some coughs were a symptom of irritation and needed soothing; others were a sign that secretion needed stimulation. It was impossible that one mixture should do both. A further evil was the constant stream of morbid suggestion in advertisements, which tended to make neurotic people regard drugs as a dope like alcohol which they could not do without.

Dr. Cox said he must emphasise the fact that doctors were not against patent medicines because they were injurious to the financial interests of doctors. On the contrary, doctors got much more out of patients who first tried patent medicines as cures than from patients who came straight to doctors. As a citizen he objected to the ridiculous claims of patent medicine advertisers and to their success, which was an indictment of the educational system of the country. Further, the fraudulent advertisers extracted most of their money from the poorest classes who could least afford it. As a censor of advertisements, he wished to point out how difficult it was to avoid being deceived. A frequent practice was to send papers respectable harmless advertisements of drugs which were sent out to purchasers with wrappers of the most exaggerated and fraudulent type. Any remarks he had made on the subject were very mild in comparison with some of the statements already published in the press. In support of this Dr. Cox read extracts from certain American newspapers which had decided to exclude all advertisements of patent medicines from their columns.

With regard to remedies, there were only two. First, the Select Committee's recommendations. These escaped publicity owing to their publication at the outbreak of the war. They had, however, been embodied in a Government Bill which had passed the House of Lords, but had later been withdrawn. Perhaps some Government would reintroduce such a Bill before long and would thus make the Ministry itself responsible for the question. The other remedy was for the advertising profession to clean up the matter itself. He would like to see this, and nothing would impress the public more favourably than such action.

The Manufacturer's View.

Mr. KENNINGHAM (Secretary to Association of British Proprietaries) said his Association stood for the more reputable class of proprietors, and was formed with the object of trying to clean up patent medicine advertising. Membership of the Association was confined to manufacturers who complied with certain

regulations designed to exclude undesirable methods. He himself welcomed the Publicity Club's discussion, because if newspaper proprietors would see to the exclusion of the objectionable advertisements the matter would clean itself up without necessity for legal intervention. He did, however, object to Mr. Russell's remarks in that because of a few bad articles the whole trade was tarred with the same brush. Manufacturers, however, would not give their formulæ to a Government department. These formulæ were trade secrets, and fair play would not allow it. *Re* the Bill brought forward four years ago, Mr. Kenningham assured the meeting that this was not dropped owing to any request of the manufacturers themselves. The Bill would suit the manufacturers as well as the public. There was an enormous sale of patent medicines and there was no question that they did a great deal of good. Otherwise they would not sell as they did. Some patent medicines which had not been advertised for many years still had large sales simply because the public knew their value. All advertising men would agree that for an article to sell well it must be of good quality. In Great Britain about 100,000,000 packets of patent medicine were sold per annum, some two to three packets per person. In spite of all obstacles and criticisms, the sales of patent medicines continued to increase, largely because they supplied a real want on the part of the public. Doctors would freely generalise about the harm done by patent medicines, but he could not remember hearing any doctor quote a definite case of a patient who had been injured by them. He could not see why the reputable patent medicines should be classed in the same group with appliances and with the objectionable group. They were quite distinct, and it was not fair to class them together. His Association was perfectly willing to help to clean up the subject in any way possible, and they hoped the Bill would be passed. If any committee could be formed to exclude the disreputable advertisements from the newspapers the Association would be entirely in favour of it.

The Advertisement Manager's View.

MR. HORACE IMBER said he was speaking from the advertisement directors' point of view. It was sometimes said that at least 30 per cent. of a doctor's cure was due to the personality of the doctor. In patent medicines this 30 per cent. was represented by the copy of the advertisement. As to the type of advertisements which should be accepted by a newspaper he had always made it a rule not to accept any advertisement of a disease which medical science could never cure—for instance, cancer and consumption. It had been his practice before accepting patent medicine advertisements to obtain a sample of the drug and have it analysed by a qualified chemist, but very few advertisements had been rejected as the result of such analyses. He considered the standard of advertising in this subject had been raised a great deal and in many cases was quite artistic. However, the other type of advertisement on which photographs of unpleasant people stared you in the face still sold the goods. Patent medicines, in his opinion, played a very important part in securing the health of the nation, because many people who were only slightly ill, and did not want to consult a doctor, would cure themselves by taking a patent medicine. A feature he did object to strongly was the inclusion of advertisements at the foot of the columns of reading matter at especially high rates. He would like nothing better than a committee which would help him in selecting reputable advertisements. His own medical knowledge was insufficient and he had to rely on the analyses of a qualified chemist.

An Advertiser's View.

Sir WILLIAM VENO said that if Mr. Kenningham's figure of 100 million packages was correct he manufactured 10 per cent. of it, and the sale was growing rapidly. While it was unpleasant to listen to some of Mr. Russell's drastic statements he entirely agreed with Dr. Cox's most reasonable remarks. He considered that manufacturers would lose nothing by exposing their formulæ if they were protected for them. Under such conditions he would willingly publish his own formulæ. He was very sorry that the Bill introduced four years ago had not become law. The manufacturers had studied it clause by clause and found nothing objectionable. They all agreed to it. He invited Dr. Cox to inspect his laboratories at Manchester, and would be delighted to show him everything. The alleged formula of Veno's cough cure had appeared in "Secret Remedies," but he had smiled when he saw it. It really contained six rather important ingredients. Three of these were grindelia, yerba santa, and balsam of tolu. In future advertisements these three ingredients would be mentioned, and if Dr. Cox knew of any more useful ingredient than these three he would be glad to put it in his cure. A good deal was said about the percentage of water in medicines, but in what else could the drugs be dissolved? If water was not used the medicines would be dangerously strong. The patent medicine business laid itself open to criticism because men with fraudulent intentions were attracted to it, but it was not fair to class all patent medicines together. There were two quite separate classes. The reputable medicines, such as Veno's cough cure (which could be bought for 1*s.* 3*d.*), were the poor man's medicine, and as such were really valuable. But the other class, the fraudulent medicines, should be cleared out of business altogether. One method of achieving this end would be to bring in legislation to set up a committee of doctors and chemists with power to visit laboratories. Legitimate businesses could then be registered and others stopped.

General Discussion.

MR. THOMSON WALKER said Mr. Kenningham had referred mainly to reputable patent medicines, but we were not here to discuss the reputable ones. The objection to disclosing formulæ could not be so great as Mr. Kenningham had said, as was shown by Sir William Veno's readiness to disclose his formula to Dr. Cox, and by some advertisements. It was, however, an absolute necessity if the matter was to be cleaned up, and the patent medicine trade had brought the necessity on itself. Not merely bad patent medicines, but good medicines badly advertised must be considered. With regard to the precautions taken by some newspapers in excluding harmful advertisements these were necessarily inadequate. For instance, the guarantees of sending money back if readers were not satisfied, or the guarantee that remedies were not injurious were quite worthless. Some more drastic remedy was needed such as that proposed by Sir William Veno or by the Parliamentary Committee.

MR. STUART HIRST (representing C. E. Fulford and Co.) said that the question of acceptance and rejection of advertisements was a very technical one. A recent widely accepted advertisement had shown how easily advertisement managers were deceived if sufficient skill was used in writing the "copy." In order to decide the question newspaper proprietors must have technical advice at their disposal. With reference to a previous speaker's criticisms of a certain advertisement, the formula published in "Secret Remedies" was incorrect, and the advertisement in question was correct in every respect. The case put by Mr. Russell only represented one side of a very complicated business. No campaign of calumny or misrepresentation would help, but only impartial study of this complicated subject.

MR. VALKENBERG said that patent medicine advertisements did need cleaning up for the benefit of all other advertisers. The juxtaposition of advertisements of bad legs to costly advertisements of perfumery or similar goods was repellent and certainly harmful to the latter.

MR. B. W. ROWE said that the fraudulent nature of many patent medicine advertisements discounted the public belief in other reputable advertisements, and so wasted millions of pounds annually in addition to that

spent on the medicines themselves. He did not believe that an article in order to succeed must be a good article. In patent medicine advertising it would always be possible to fool the public and to make people believe they had been cured. In this subject the British love of freedom had gone too far, and the uneducated public must be protected from the fraudulent advertiser.

Mr. D. MUGFORD advocated the use of the term proprietary medicine instead of patent medicine, and quoted an advertisement of a well-known headache powder as misleading owing to the numerous possible causes of headache such as eyestrain. In the face of this and similar statements, there was real need for the publication of formulæ. The Bill relating to patent medicines was prepared as a direct result of the Select Committee's report, and in spite of his opposition to Governmental control in advertising he felt the Bill was a real necessity.

Mr. KENNINGHAM said that a formula was the only protection for a trade-mark, and if once disclosed might lead to the loss of the trade-mark throughout the world. The position of a patent was quite different.

Reply and Resolution.

Mr. RUSSELL replied to various criticisms and said that the meeting was not a campaign by the Publicity Club, but an impartial discussion by both sides.

Mr. FLEETWOOD PRITCHARD moved the following resolution:—

That this meeting of the Publicity Club of London, held at the Hotel Cecil on Nov. 17th, 1924, representing the largest advertisement club in Great Britain, records its opinion that the present condition of the law in regard to patent medicine advertising calls for immediate reform, and urges the immediate introduction of legislation along the lines laid down by the Select Committee of the House of Commons in 1914.

The resolution was seconded by Mr. ROWE and carried unanimously.

SCHOOL MEDICAL SERVICE.

Aberdeen.

Dr. G. Rose, in presenting his fifteenth annual report, remarks that if the popularity of medical inspection is to be judged by the number of parents putting in an appearance at inspections, it is increasing in Aberdeen every year. Last year 70 per cent. of the parents were present, surely a record in any area. The Aberdeen school report nearly always presents us with a new point of view, and we deal with Dr. Rose's important investigation into the effect of rickets in infancy on the growth of the adolescent boy and girl in another part of this issue (see p. 1140). A policy of thoroughness is to be observed throughout the public health administration of the city. If one child of a family is found verminous, and the whole family is not cleaned within a certain time (and in this they get practical help in the way of instructions and disinfectants from the medical department), off they all go to the cleansing station, which they willingly do rather than face the publicity of a prosecution. The house then is thoroughly cleaned and disinfected; fresh chaff is supplied for the beds, and where necessary the bed and body linen are washed as well as disinfected. The family thus get a fresh start in life, and seldom get into a like condition again. The scheme, which is unique, has worked smoothly since 1911, when it was inaugurated with considerable misgivings as to its success, which was assured largely by the tact of those dealing with the families concerned, and by the excellent provision for their comfort during the cleansing process. At the beginning the prosecution of a few cases of gross neglect and verminous conditions was necessary, but these have gradually become less frequent. Last year 99 families suffering from body vermin came under notice for the first time along with 54 families who had been under notice previously; 66 of these families, including 174 adults, 100 school-children, and 53 infants were treated at the cleansing station. The home accommodation amongst them was as follows: 24 had one room, 106 had two rooms, 47 had three rooms, 15 had four and five rooms. The figures speak for themselves. Casual and dock labourers contributed the largest number. The rearrangement of the clinical work, which has been made possible by provision of extra accommodation, has resulted in treatment being more expeditious and working conditions more comfortable. The clinics are central and therefore convenient for doctor and patient. The dental work, which is in the hands of one whole-time and one half-time dentist, assisted by a dental dresser who does temporary fillings and dressings, continues to increase in popularity. School hygiene as a whole will gain from this informative report.

Lindsey.

Lindsey has a school roll of over 39,000 children, of whom 12,345 were examined in the routine groups. Of these, over 15 per cent. required treatment, and approximately 20 per cent. needed further supervision. Including dental disease, which never fails to increase the numbers considerably, only 13·69 per cent. of the total number examined had no defect. Dr. R. Ashleigh Glegg prints seven separate rules for the preservation of children's sight, and it is to be hoped that they will circulate among the schools, for, as he points out, the chief cause of aggravation of defective sight is the failure of teachers to recognise the first principles of ocular hygiene. There is no doubt that if reading from books in school were definitely prohibited before 7 years of age, as would not be difficult now that an interest in hygiene generally has been stimulated among school teachers by school inspection, a diminution in the amount of visual defect would result. There are now 15 centres for the treatment of minor ailments. As a rule a doctor and a nurse attend once a week, but in a few of the smaller centres attendance is fortnightly, although in one district a nurse attends daily to carry out routine treatment. Operative treatment for enlarged tonsils and adenoids is given at certain hospitals and at the school clinic in Barton-on-Humber. Yet there still remained at the end of the year 1112 cases for which no treatment had been obtained. The head teacher's first annual report on the new Branston Hall Sanatorium is interesting enough to make one look forward to the second.

Nottinghamshire.

Dr. H. Handford has unfortunately had to retire on account of increasing ill-health, and Dr. T. E. Holmes acknowledges his indebtedness to the senior assistant medical officer, Dr. A. C. Tibbits, for writing the report. Although no new schemes have been inaugurated during the year, much solid groundwork has been accomplished. In spite of this the school dentist reports that the dentists were unable to complete the circuit of schools in the 12 months, and it is proposed to omit the reinspection of children who have twice refused treatment. The large number of refusals to accept dental treatment (60 to 70 per cent.) is an indication of the parent's own attitude, which is one of distrust and alarm, engendered probably by a mental association of dentists and painful extractions of badly decayed molars. A wholesale educational campaign on modified American lines, by means of attractive leaflets and lectures, is badly wanted in this particular direction; so much depends on health efficiency, and so much of health efficiency depends on the state of the teeth. More and more the medical profession is realising that a healthy body only goes with a clean mouth. During the year 13,538 children were dealt with, 2628 of these being special cases. It is interesting to know that in Nottinghamshire the body-louse is "fast becoming extinct"; this costly animal certainly ought to be disappearing; in this county alone nine highly qualified school nurses made 131,466 examinations of children to ascertain their state of cleanliness. In the few districts where school clinics are available parents appear anxious to

avail themselves of them, but many more are wanted. Railway journeys are difficult and expensive. A special plea is made for organised classes for dull and backward children, so many of whom profit by careful individual instruction impossible in the ordinary class; while a desirable addition to the staff would be an expert instructor in physical exercises. A teacher adequately trained in this direction ought to be found in every county to help and advise in the matter of graded physical training and of games, now playing such an important part in education. Twelve schools were closed on account of small-pox, and this epidemic, although fortunately a mild one, meant a considerable amount of extra work in the public health department.

Dover.

The school medical officer, Dr. A. B. McMaster, who is also medical officer of health, reports that over 2000 children were examined in 1923 in the routine age-group, and 14 per cent. of these were found to require treatment. Apart from dental defects, defective vision accounted for the greatest number. The incidence of defective vision was 7·6 per cent., which is low compared with other counties such as Kent and London. Fully a quarter of the special cases were presented on account of skin trouble of some description, mostly impetigo. Ringworm has diminished in the schools; there were 54 fewer cases this year than last, and 186 less than the year before. These children are treated by means of X rays. Altogether 752 children obtained treatment during the year, all under the authority's scheme, with the exception of 20.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Lt. A. W. McRorie to be Surg. Lt.-Comdr.
R. G. Anthony to be Surg. Lt. for short service.

ROYAL ARMY MEDICAL CORPS COMMISSIONS.

An examination for not less than 20 commissions in the Royal Army Medical Corps will be held on Jan. 28th, 1925. Applications should be made to the Under-Secretary of State, the War Office, not later than Jan. 18th. Full particulars of the duties and emoluments of the service can be obtained on written application to the Under Secretary of State (A.M.D.1.), the War Office, Whitehall, London, S.W.

ROYAL ARMY MEDICAL CORPS.

Lt.-Cols. H. M. Morton (granted the rank of Col.) and A. D. Waring retire on ret. pay.

The undermentioned Majs. to be Lt.-Cols.: G. A. K. H. Reed, vice Lt.-Col. H. M. Morton; and Bt. Lt.-Col. J. M. H. Conway, vice Lt.-Col. A. D. Waring.

Capt. W. E. K. Coles relinquishes the temp. rank of Maj. on ceasing to be empld as a Dep. Asst. Dir. of Pathology.

REGULAR ARMY RESERVE OF OFFICERS.

Capt. W. S. Dawson, late R.A.M.C., Spec. Res., to be Lt.

Lt. C. C. H. Chavasse, from R.A.M.C., Reg. Army Res. of Off., to be Lt.

MILITIA.

Capt. A. D. d'Avray to be Maj.

TERRITORIAL ARMY.

Cadet D. Jack (Edinburgh University O.T.C.) be to Lt.

TERRITORIAL ARMY RESERVE OF OFFICERS.

Col. H. T. Challis having attained the age limit is ret. and retains the rank of Col. with permission to wear the prescribed uniform.

Lt.-Cols. T. Forrest, T. A. Green, and H. A. Rudyard having attained the age limit are ret. and retain the rank of Lt.-Col. with permission to wear the prescribed uniform.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of Lt.-Col. F. H. G. Hutchinson to Col., and the retirement of Lt.-Col. G. A. Jolly. His Majesty has also approved the grant of a temporary commission to S. Mahmood Ali Khan.

Correspondence.

"Audi alteram partem."

LABORATORY CHANGES AT A HOSPITAL.

To the Editor of THE LANCET.

SIR,—I wish to support the protest, made in THE LANCET last week by Dr. Greenfield and others in their letter under this heading, against the proposed scheme for laboratory diagnosis advertised by the Hospital for Epilepsy and Paralysis, Maida Vale. It does not seem desirable that an institution depending on voluntary contributions from the public should compete at cut rates with the regular institutions carrying out clinical diagnosis commercially, and working pathologists would seem to have a real grievance here. The facts as to personnel being as stated, there are grave objections to the scheme. At the present time, when any unqualified person can claim to be an authority on medical subjects, it may seem hypercritical to object to pathological diagnosis being undertaken by those who have not gone through a probationary mill, and, as a matter of fact, no sensible person would object if this were a private commercial venture. The feature of the scheme to which exception must be taken is, that a medical institution should allow its reputation to be accepted as a guarantee that those who are to carry out the work are competent and qualified to a degree which justifies them in asking for the very moderate fees mentioned in the circular.

I am, Sir, yours faithfully,

J. A. MURRAY,
President, Pathological Section, Royal Society of Medicine.

London, Nov. 24th, 1924.

THE ALLEGED STERILITY OF PRESENT-DAY BACTERIOLOGY.

To the Editor of THE LANCET.

SIR,—The interesting letter of Prof. J. C. G. Ledingham on this subject in your issue of Nov. 22nd has probably raised some doubt in the minds of many thoughtful clinicians. Few will deny the soundness of Prof. Ledingham's contention that our knowledge of the ætiology of certain diseases such as syphilis, epidemic jaundice, and yellow fever has been greatly advanced in the last quarter of a century through the investigations of bacteriologists. It may also be fairly claimed that in regard to general medicine, in which the vast majority of practitioners are mainly interested, the period has been relatively sterile so far as results of value to practical medicine is concerned. I think, however, that in apportioning any blame for this state of affairs, it is hardly fair to blame the bacteriologists entirely. This should be divided at least equally between clinicians and bacteriologists. On the bacteriological side the period in question has not been entirely unproductive. It has produced a wealth of bacteriological technique and specialised knowledge regarding the life of bacteria, under the extremely limited conditions which come under the sphere of action and thought of the medical bacteriologist. It has further produced a wealth of classification which has done credit to the industry of bacteriologists, but a great deal more than this is required, and there is good reason for thinking that a change of outlook and practice is urgently called for if any real advance in the practical application of bacteriology to everyday medicine is to be made.

I can best illustrate my view by a reference to two points which have recently interested me as a clinician, with a keen interest in and an elementary knowledge of bacteriology.

1. In the last year or two, in connexion with certain practical problems of milk production and milk preservation, I have had occasion to make some simple bacteriological observations on milk, and, on seeking help from competent bacteriologists, I have been much impressed by their admitted lack of knowledge

and sometimes their apparent lack of interest in a question of such first-rate importance in general nutrition and medicine. The unfavourable results of excessive specialisation in the subject have been strikingly revealed.

2. I recently had occasion to make a simple bacteriological investigation of certain soils in order to test a theory that there may be close analogy between certain processes of nitrification and denitrification in the soil, and similar processes daily occurring in the human interior. In the course of these observations I obtained a bacterial culture from the soil, of an apparently pure organism, and experimented with it in the garden with results of an interesting and arresting kind. The organism in question had the typical morphological appearances and biochemical reactions of *Bacillus coli*. Here, again, a reference to several competent bacteriologists, both on the agricultural and medical side, failed to yield any helpful suggestions or criticism. The subject was obviously outwith their line of vision and their interest.

My experience has led me to the conclusion that while the training and outlook of bacteriologists and bacteriology teachers reflect the greatest credit on their work, from the limited point of view in which the subject is approached, a much wider outlook is essential if bacteriology is to advance our knowledge of general medicine in the next few decades. Medical bacteriology, like general medicine itself, is really a branch of biology, and until there is established an infinitely wider outlook and practice based on that wider outlook, the valuable secrets which could, in my view, beyond question be revealed by the skilled application of expert bacteriological knowledge to medicine, will remain secrets. For that reason one welcomes and endorses the statement in your leading article on this subject in the issue of Sept. 20th: "What there is most needed at the present time by all those who are engaged on the technological applications of bacteriology is the provision of facilities for teaching and research into how bacteria, irrespective of their human importance, live and move and have their being."

I am convinced that when the importance of this is realised and judiciously followed up by appropriate action, a step of vast importance to clinical medicine will have been taken; and, 10 or 20 years hence, there would be no justification for any letter appearing in your columns under the heading of "The Alleged Sterility of Present-day Bacteriology."

I am, Sir, yours faithfully,
CHALMERS WATSON, M.D.

Edinburgh, Nov. 24th, 1924.

To the Editor of THE LANCET.

SIR,—Prof. J. C. G. Ledingham has dealt with some asperity with certain observations on bacteriology that appeared in your issue of Nov. 15th; I would like to add a comment in somewhat lighter vein on the epithets that were applied to clinical pathology. Since reading your leading article and Prof. Boycott's address I have been greatly worried by the problem of my origin, and I would ask your help in deciding whether, assuming clinical pathology to be the mulish hybrid you suggest, it is by medicine out of pathology, or by pathology out of medicine; or, more bluntly, which of its parents is the ass? In asking this ticklish question I would not have it thought that I object to the epithets applied; on the contrary, I think them in many ways very apt. Your readers need no reminder that there is more than one story in the Scriptures that redounds to the credit of the ass, and mules at least give us a shining example of "the good life" which, as Prof. Boycott reminds us, is fulfilled by bearing other peoples' burdens. Throughout the long years since I was first Prof. Boycott's demonstrator I have owed him much more than he would permit me to tell; I wish I could feel worthy of this crowning gift, the halo of a saint. I am, Sir, yours faithfully,

G. W. GOODHART.

Warwick-gardens, Kensington, W., Nov. 24th, 1924.

PUERPERAL MORTALITY.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 15th, reporting the discussion at the Royal Society of Medicine on Puerperal Sepsis, Dr. R. A. Lyster is quoted as saying that the almost sole cause of maternal mortality was bad midwifery practice, the level of which could be raised by efficient supervision and inspection. Dr. Lyster does not, however, suggest how he would supervise and inspect the midwifery of the medical practitioner, but confines himself to adverse criticism of midwives' midwifery, making the startling statement that, by influence through their societies, midwives have prevented their work being properly checked and supervised, with the result that the working of the Midwives Act has resulted in little or no improvement in maternal or infant mortality.

As the Midwives' Institute is (with one possible exception) the only midwives' society to which he can allude, we should be interested to know how we were able to exert such influence as to nullify both the Midwives Act and the Notification of Births Act, and to obtain the support of the Central Midwives Board in these reprehensible practices. The Midwives Act gives very considerable powers to the local supervising authorities of the county or county borough. Dr. Lyster is the executive officer for his local supervising authority, and we ask him why his inspectors do not properly check and supervise the midwives of the county of Hampshire. Perhaps the midwives' societies have been active there also?

In regard to his "striking fact that the death-rate of infants during the first few days is comparatively high, and does not tend to diminish," we would remind Dr. Lyster of what we feel sure he must often have heard—viz., that the causes of the high neonatal mortality are chiefly pre-maturity, birth injuries, and maternal intoxication. We fail to see what effect on this mortality "the official visit to the house" of a health visitor would have. Dr. Lyster's faith in the health visitor from the town-hall, and his dread of the midwife who bears the burden and heat of the day is pathetic. We midwives have for long studied this question of the prevention of maternal mortality very earnestly. We feel that the solution has not yet been found, and doubtless depends on more than one factor. In the practice of well-trained midwives, supervised and inspected by efficient inspectors who are at the same time friends and advisers, and with competent medical consultants in difficulties, the mortality where midwives are engaged to attend has almost reached an irreducible minimum. (In 1923 the mortality in 54,554 cases attended by the nurse-midwives of the Q.V.J.I.N. was 1·4 per 1000, including every case in which medical aid was summoned.)

The Midwives' Institute feels greatly the importance of prevention; towards this the first step should be to find out the cause of every death in childbirth. This will not be achieved until there is in every case a post-mortem examination made by an independent medical official.

We consider, therefore, that the first steps in this matter should be: (1) A post-mortem examination on all deaths in childbirth. (2) A space on the notification of births card for the name and description of the person actually delivering the woman. (3) It should be made a penal offence for anyone not a doctor or a certified midwife to examine (p.v.) a pregnant or parturient woman. (4) That in every area there should be an obstetric consultant whom midwives could consult antenatally, at labour, and postnatally. (5) That in every area there should be beds where a midwife could send a bad emergency case, and a service of motor ambulances. (6) That certain elementary matters concerning the hygiene of marriage and motherhood should be taught to young men and women before marriage.—I am, Sir, yours faithfully,

E. SIMPSON,
Secretary, Midwives' Institute.

12, Buckingham-street, Strand, W.C., Nov. 20th, 1924.

INTRA-OCULAR TENSION IN MYOPIA.

To the Editor of THE LANCET.

SIR,—DR. Edridge-Green, writing on the above subject in your issue of Oct. 25th, states his belief that myopia is produced by dilatation of the eye through increased intra-ocular tension caused by back pressure through the veins of the eye, as the direct result of strain. The ordinary explanations of the occurrence of myopia—viz., that vigorous muscular action in the act of convergence, and pressure of the extra-ocular muscles, notably the internal rectus and superior oblique, exercising undue pressure on the eyeball, thereby cause a lengthening of its antero-posterior axis—are allowed to be very unsatisfactory. The shape of the eye depends chiefly on its firm resistant outer coat, which is formed by the strong opaque sclera, supported in the posterior two-thirds of the eye-ball by the capsule of Tenon, with the cornea in front. The cornea and the front part of the sclerotic are supported by the lens with its capsule and ligament. In health, the fundus and the sides of the eyeball are well braced up by the extra-ocular muscles as a whole, and the fundus is supported by the fat and areolar tissue which lies between it and the orbit. Myopia is essentially associated with debilitated states of the individual and is a disease of modern civilisation. The condition is seldom congenital, but tends to develop between the ages of from 4 to 16 years, most commonly about the period of adolescence. During wasting illnesses it is apt to increase and it may diminish as health and vigour return. In other words, it is associated with a marked tendency to debility rather than to continuous and excessive muscular action.

Normally, the sclerotic coat is thinner in the young child than in the adult; and in rickets, and other debilitating diseases, notably after measles and whooping-cough, it tends to be softened and is still more attenuated as a result of malnutrition. Rickets plays a formidable part in the production of these debilitated states, and, like scoliosis, flat-foot, and knock-knee, myopia may arise as the sequel of the persistence of a debilitated muscular state long after the active disease has subsided. In other words, diminished resistance of supporting structures rather than increased strain is, I believe, the essential factor in the production of myopia.

I am, Sir, yours faithfully,

J. LAWSON DICK.

Cholmeley Park, Highgate, Nov. 23rd, 1924.

THE THERAPEUTIC VALUE OF MUSIC.

To the Editor of THE LANCET.

SIR,—During a vast personal experience of music and musicians, contentment among listeners has, I think, been the dominant outcome of any well-ordered musical effort. Excitement, never immoderate, is common enough and mostly pleasurable, and once in a way overwhelming sadness; but music has always seemed to me less objective in itself than a suffusing influence pervading receptive ground, awakening latent mentality, invaluable in cerebral fatigue or torpor, often soothing, more sedative, and, in my own person, an unfailing incentive to intellectual effort in cloudy moments.

We may certainly associate soft music with the lulling or obliteration of pain for a while, and there is, perhaps, an association of harmony in sound with the production of hypnotic anæsthesia by other means, though what refinements of molecular change underlie in the sensorium the abeyance of mental activity we know not. There is, moreover, a close resemblance in physiological action between music and other stimuli which regulate the vaso-motor activity concerned in tissue change and glandular function, but we cannot measure the administration of music in terms of drug value or dosage.

Further than this I am not prepared to go, and I have little hope that music as a therapeutic agent will respond to the extravagant expectations now in vogue. The best effects are far too transient to be of substantial value even in functional derangement, and we surely need not expect success in the presence of organic lesion. The malady of Saul baffled David, but the cerebral apathy of Elisha yielded to the effective harmony of the Minstrel. There are, besides, certain mental extremities in which, as with Darius the King, music is simply intolerable. Truly, Music was the earliest and most spontaneous of the Arts, and if regarded as a language she speaks in a perfect babel of dialects to suit her listeners.

In early days I was bassoon in a quartet composed of oboe, cor anglais, tenoroon and fagotto, and we were the accepted exponents both in theory and practice of orchestral double-reed instruments. We played the organ fugues of Bach and Handel with other sane music. M. Costa listened to us with sparkling approval; Grove came for information for his Dictionary, and Haweis to talk. We played everywhere, not infrequently in some of the lunatic asylums, at Earlswood especially, with the control of epilepsy in view. But no good came of this and we seemed among the epileptics to be confronted with a depressing and impenetrable vacancy. We never adopted the fanciful interpretation suggested by emotional listeners, but gladly accepted the *deductio ad absurdum* of the American who claimed our sympathy in an attack of hay fever contracted during a recital of the Pastoral symphony with its cuckoos, quails, and other vernal influences. In my pre-Troyte days I took many a bell in steeple change-ringing and used to compare the melodious intricacy of Stedman's doubles with some of Bach's best work. But music as a separate entity never diverted us from the graver avocations of medicine and science, nor have I followed the descent of harmony to the ministration of fox-trot and bunny-hug displays. Sir Walford Davies would hardly be concerned to explore the language of music in such association. The ladies of the Prophet Ezekiel would be more worthy exponents.

I am, Sir, yours faithfully,

MICHAEL GRABHAM, M.D., LL.D., F.R.C.P.

Madeira, Nov. 19th, 1924.

METASTATIC GAS GANGRENE.

To the Editor of THE LANCET.

SIR,—All surgeons engaged in gastro-intestinal surgery will sympathise with Mr. B. T. Rose in the loss of a patient from this very rare complication after gastro-enterostomy (see THE LANCET, Oct. 4th, p. 726). But, in addition to the interesting problem as to the origin of this virulent infection, there is, I think, in this case a point of technique possibly of some importance. The posterior operation, generally so easy, was performed, Mr. Rose reports, "with some difficulty as the omenta were very fatty and the stomach small and high up."

I venture to suggest that under such circumstances the anterior operation would have been preferable. Curiously enough I have just operated on a patient whose lesions resembled those recorded in this case. A very fat man, aged 30, had a grossly diseased appendix and a well-marked duodenal ulcer in a stomach without any dilatation. After appendicectomy, on turning up the colon loaded with fat, I found the mesocolon consisted of a sheet of thick fat in which one small vein was faintly visible. Without hesitation I performed the anterior operation and entero-anastomosis.

My experience leads me to perform it in three different conditions of the mesocolon: (1) If it be excessively fat; or (2) abnormally vascular, so that an adequate opening cannot be made without troublesome bleeding; or (3) so short that the colon would be anchored too near the anastomosis. If fat be present to a considerable but not excessive extent in a sufficiently lax mesocolon, W. J. Mayo's well-known method of dealing with it should be employed; the edges of the mesocolic opening should not be

sutured to the jejunum, but away from the suture line well up on the stomach cone.

The immediate and remote results of the anterior operation have been excellent, as satisfactory as the posterior, with perhaps the disadvantage of a slightly higher liability to subsequent ulceration of the anastomosis. But if this troublesome complication occurs, the secondary gastrectomy required for its relief is, of course, much easier than when the short loop posterior operation has been performed. The value of the anterior operation in selected cases has been insisted on by several surgeons, and quite recently again by Balfour,[1] who writes of it: "Anterior gastro-enterostomy, particularly when combined with entero-anastomosis, is a more useful substitute for posterior gastro-enterostomy than is generally believed."—I am, Sir, yours faithfully,

Huelva, Spain, Nov. 10th, 1924. IAN MACDONALD.

BACTERIOLOGY AS A DEGREE SUBJECT.

To the Editor of THE LANCET.

SIR,—In his address on the Progress of Pathology Prof. A. E. Boycott seems to imply that Cambridge, Manchester, and Leeds are making new departures by admitting pathology and bacteriology as subjects for science degrees (your issue of Nov. 15th, p. 999). May I remind Dr. Boycott that the University of London, in which he is a professor, for years has allowed bacteriology as a subject for the B.Sc. degree, and that pathological and bacteriological subjects may be presented for the M.Sc. and Ph.D. degrees since these were instituted.

I am, Sir, yours faithfully,

R. TANNER HEWLETT.

University of London, King's College, Nov. 24th, 1924.

MEDICAL SUBSCRIPTIONS AND INCOME-TAX RETURNS.

To the Editor of THE LANCET.

SIR,—At the last meeting of the Council of the Medical Defence Union a letter was received from the Board of Inland Revenue stating that the Board will offer no objection to the allowance of the annual subscriptions to the Union as an expense in the computation of the professional profits for income-tax purposes of members who are assessable under Schedule D of the Income Tax Act, 1918.

I am, Sir, yours faithfully,

JAMES NEAL,
General Secretary, Medical Defence Union.

49, Bedford-square, London, W.C.1,
Nov. 21st, 1924.

PROPHYLACTIC QUININE IN INFLUENZA.

To the Editor of THE LANCET.

SIR,—Dr. Wishart's remarks last week on quinine in erysipelas recall the report on quinine as a prophylactic in influenza made by Generaloberärzt H. Kayser,[2] who found, in 1918, that 0·3 g. (5 gr.) every two or three days prevented an attack or secured that the attack should be slight, and that the same dose, given twice or oftener daily, protected patients from the dreaded lung infections. He further added that influenza first attacked his division on May 26th, 1918, when they were in damp, non-ventilated catacombs at Montdidier; their number of cases per 1000 per month were: May, 24; June, 20·7; July, 65·6; August, 4·7. There were fewer cases in the October pandemic, which relief he ascribed to quinine prophylaxis. The official British view seems to be[3] that quinine and salicylates were of little use.

I am, Sir, yours faithfully,

Nov. 24th, 1924. M.D., B.Sc.

[1] Jour. Amer. Med. Assoc., August 23rd, 1924.
[2] Zeitsch. f. Hygiene u. Infekt. Krank., July, 1924, p. 241.
[3] Med. Hist. of the War: Diseases of the War, vol. i., p. 208.

THE GENERAL MEDICAL COUNCIL.

PRESIDENT'S ADDRESS.

THE winter session of the General Medical Council was opened on Nov. 25th, Sir DONALD MACALISTER presiding.

The President began by expressing regret that two much esteemed members of the Council had been removed by death. He said: "Lieut.-Col. Benjamin B. Connolly, C.B., of the Society of Apothecaries, after a long and honourable career in the military service of the Crown, became our kindly colleague and friend six years ago. Sir Sydney Russell-Wells, of the University of London, who joined the Council at the same time, and was from the outset eager to take part in its activities, was suddenly and untimely cut off in the full tide of his Parliamentary, academic, and professional life. Another eminent colleague, Dr. Matthew Hay, of the University of Aberdeen, who became a member in 1919, has resigned, I am sorry to say, largely on the ground of health. His professional distinction as a leader in sanitary science and preventive medicine added greatly to the repute of the Council, and in particular of its Public Health Committee. It is fortunate that we were able to profit by his enlightened coöperation in framing the improved rules for diplomas in public health, which the Council at the instance of that Committee has recently promulgated. We trust that freedom from some of his onerous official duties may conduce to his recovery. Prof. W. H. Gilmour, appointed in 1921 by the Privy Council as an additional member under the Dentists Act of that year, retires on ceasing to be a member of the first Dental Board. His experience in questions of dental education enabled him to contribute effectively to the working out of the new dental curriculum. If circumstances should hereafter admit of his return to office, the Council will be glad to welcome him back again.

New Members.

"Meanwhile, it will be your pleasure to welcome the new members who join us this session to carry on the work of the old. Mr. Samuel Osborn, representing the Society of Apothecaries, is a worthy representative also of the Red Cross, under which he has won high honours in many lands. Prof. Ashley Watson Mackintosh holds the Regius Chair of Medicine in Aberdeen, formerly occupied by our late colleague, Dr. David Finlay, and therein maintains the fine traditions of the northern school. The University of London sends us Dr. Herbert Lightfoot Eason, C.B., C.M.G., superintendent and senior ophthalmic surgeon of Guy's Hospital, whose knowledge of his special branch of surgery will, I doubt not, be drawn upon by the Council when matters relating to the medical curriculum and its limitations are in hand. The new additional member appointed by the Privy Council under the Dentists Act, 1921, is Mr. William Robert Ackland, who has lately been elected to the Dental Board. We shall hope to make his acquaintance during this session. The election of six Direct Representatives, to take office as from Jan. 1st, 1925, has been held during the present month. I am not yet officially apprised of the results, except those for Scotland and Ireland. There it is known that our old friends, Sir Norman Walker and Dr. Leonard Kidd, have been elected without opposition, and we may therefore still count (accidents apart) on finding them in their accustomed places next year. Of the four remaining members it would not become me, as returning officer, to go beyond an expression of satisfaction that they remain with us till the end of this year, at least. We shall learn more regarding the future Direct Representatives when we receive the return of the English Branch Council this afternoon.

The Irish Free State.

"The position as regards the Irish Free State is not yet authoritatively determined. Legislation, which was deemed necessary to remove doubts and to

establish an explicit basis for complementary Government action in this country, has been initiated in the Irish Parliament, but it has not yet been carried through its final stages. Pending the completion of such legislation, the Irish Government asked in August last for an assurance that the position, as regards the General Medical Council, would 'continue unchanged for the present.' Acting on the advice of the Executive Committee, which had considered the general question on July 28th, I forwarded to the Lord President, for communication to the Free State Government through the Colonial Office, an assurance that 'all procedure respecting elections, registration of students and practitioners, &c., shall continue, until the meeting of the General Council in November next, as if the Medical Acts were in undisputed force and effect in the Free State.' This assurance has been duly implemented by me, on the authority of the Executive Committee; but it will now fall to the Council itself to consider the question, after receiving in camera such information on the subject as is at present at my disposal.

Reciprocity.

"As I reported to you in my last address, the Executive Committee have been conducting negotiations, through the Privy Council and the Foreign Office, with the Italian Government on the question of reciprocity with this country. By the operation of a recent Italian law the privilege of practising in Italy, hitherto accorded to British practitioners, has been practically abrogated, while the privileges accorded by this country to Italian practitioners remain intact. Considerable delay, apparently due to departmental difficulties, has arisen in the conclusion of a 'special agreement' which would have the effect of restoring normal reciprocal relations. We have now been notified that an assurance has been given to the British Ambassador, by the Acting Director-General of Political Affairs at the Italian Foreign Ministry, that the difficulties in question have been surmounted, that the general tenor of the 'special agreement' is approved, and that an official reply in that sense may be expected at an early date. We are informed that a considerable number of British practitioners are in the meantime detrimentally affected by the existing restrictions, and if a remedy is not speedily provided it will be the duty of the Executive Committee to propose to the Lord President of the Privy Council that steps should be taken to determine the application to Italy of Part II. of the Medical Act, 1886.

"A similar position has arisen in the Canadian Province of Saskatchewan, with which we have hitherto been in relations of reciprocity. A local law has been passed, apparently in ignorance of its sweeping effect, restricting provincial registration to British practitioners who are 'duly registered by the General Medical Council of Great Britain after examination by the said Council.' As the Council does not itself examine applicants for registration here, this provision excludes from provincial registration all who are henceforth admitted to our Register, and thereby abolishes reciprocal recognition. Inasmuch as practitioners licensed after examination by the provincial authorities still continue to be registrable in this country, it is clear that either the new provincial law must be amended, or the privilege extended to the Province of Saskatchewan must be discontinued. The position has been clearly explained to the local authorities and to the Dominion Medical Council, and the Executive Committee will await their considered replies, and also that of the New Brunswick Council, which has proposed a somewhat similar restriction on reciprocity, before making formal representations to the Privy Council on the subject.

Medical Degrees of Indian Universities.

"The Executive Committee at the May session considered the reports on the course of study and examinations for the medical degrees of four Indian universities furnished by Colonel Needham, the official inspector appointed by the Indian Government and approved by the Council. In the case of two universities, the Punjab and Calcutta, it was agreed that, on the fulfilment of certain conditions, the recognition by this Council of the M.B., B.S. degree for registration in this country, which is required under Section 13 of the Medical Act, 1886, should be continued till Nov. 30th, 1924. The inspector reports that the conditions are in course of being fulfilled by the Punjab University, and the Committee has resolved to continue recognition of its degrees, under the same conditions, till Nov. 30th, 1925.

"The University of Calcutta would appear to be indifferent to the recognition of its degrees as qualifications registrable in the British Register, for it has not seen its way to fulfil the conditions accepted by the other Indian universities; nor has it, as they have done, afforded the inspector the facilities necessary to enable him to report on the methods and standards it adopts in respect of the final examinations in medicine, surgery, and midwifery. Accordingly, in the absence of the data required to justify the Council in continuing to offer the guarantee laid down in the Medical Act, 1886, the recognition of Calcutta degrees in medicine and surgery will automatically lapse on Nov. 30th. Degrees granted by the Univesity of Calcutta after that date will not confer a title to registration qualifying for practice in the United Kingdom.

Advertising.

"The publication of the Council's Warning Notice on the subject of advertising has been followed by a number of communications, many of them anonymous or 'confidential,' calling attention to alleged infractions of the notice. These communications are, as a rule, unaccompanied by any evidence that the alleged 'advertisement' was directly or indirectly procured, sanctioned, or acquiesced in by the medical practitioner concerned. In some cases the 'advertisement' has been indignantly disclaimed and repudiated by the practitioner named therein, by letters addressed to the Council and to the persons responsible for its publication. It should be understood by the profession and the public that the Council, as a judicial body, cannot institute an inquiry into the conduct of a practitioner unless some substantial prima facie evidence implicating him is submitted for its consideration. Vague charges, which the complainant cannot or will not support by any such evidence, must necessarily be ignored by the Council.

"Your time during this session will, as usual in November, be mainly occupied in considering cases of discipline, in which the Penal Cases Committee have found that evidence calling for inquiry, and for answer on the part of a practitioner, is forthcoming. To meet the convenience of the additional members of the Council, the dental business of the session will be taken on Friday of this week. So far as can be foreseen, that business may be completed in one day, and the session may accordingly end within the week."

A vote of thanks was moved to the President for his address by Sir JAMES HODSDON, and seconded by Sir NORMAN WALKER. The Council then debated the position as regards the Irish Free State in camera, and proceeded later to the consideration of penal cases, of which there are 13 down for hearing.

DENTAL BOARD OF THE UNITED KINGDOM.

THE concluding meeting of the seventh session of the Dental Board of the United Kingdom was held on Nov. 13th. Following upon the consideration of the penal cases (THE LANCET, Nov. 22nd, p. 1093), the reports of various committees were received. Under the Education Grants Committee certain detailed recommendations were adopted, the same course being followed under the Propaganda Committee,

Interim reports from workers investigating the causes of dental diseases, forwarded by the Medical Research Council for the information of the Board, were read and approved. A report of the solicitor, on the appeals to the High Court of Justice from the decisions of the Dental Board, was considered. Three appeals were dealt with, while a further appeal is pending.

Obituary.

CRESSWELL BURROWS, M.D. CAMB., M.R.C.S. ENG.

Dr. Cresswell Burrows, assistant medical officer of the Public Health Department of the London County Council, died at Cambridge on Nov. 13th at the age of 47. He took his B.A. at Cambridge University in 1896, and studied medicine in London at St. Thomas's Hospital, qualifying M.R.C.S., L.R.C.P. in 1901. In 1910 he gained the M.D. Camb. Choosing to devote himself to the public health, he acted as resident medical officer at the Willesden Isolation Hospital and as assistant medical officer of the Metropolitan Asylums Board. In 1912 he was appointed assistant medical officer to the London County Council, and subsequently to that time, with the exception of his army service on the Western front during the war, he gave himself to the work of the school medical service in the East End of London. Immediately upon demobilisation he took up again his work in the London School Medical Service. A colleague writes of him: "Burrows preferred making his life work that of ameliorating the condition of the children in the East End of London rather than seeking a path in the profession which would lead to monetary advantage or renown. His quiet devotion to duty and his sterling integrity were a support and stimulus to his co-workers in the field he chose. He will be deeply mourned, not alone by his medical colleagues, but by a large circle of teachers, parents, and children in the London schools, who know and appreciate to the full his altruism and his self-sacrificing spirit."

MAURICE GILBERT HANNAY, M.D. BRUX., M.R.C.P. LOND., F.R.C.P. EDIN.

WITH the recent death of Dr. M. G. Hannay there has passed a promising dermatologist, who, though finding his métier rather late in his career, was rapidly securing recognition at the time of his premature death—for he was only 48 years old when a brief illness had a fatal issue. A student at Charing Cross Hospital, whence he qualified as M.R.C.S. Eng., taking also the M.D. Brux. with honours, he was for many years in general practice, but at the same time he worked regularly as clinical assistant in the Skin Department at Charing Cross. During ten years in this position he published notes in the dermatological papers under his own name or in association with the late Sir James Galloway, which showed grasp of many difficult clinical points; and as soon as the opportunity offered, he devoted his whole time to the subject, studying in Paris and Edinburgh as well as in London, and proceeding to the diplomas of M.R.C.P. Lond. and F.R.C.P. Edin.

During the war he saw service at the base hospitals in this country and later both in France and Germany, but at the conclusion of hostilities he settled down to his special line of practice in London, when he was elected honorary physician to St. John's Hospital for Diseases of the Skin, later becoming dean and lecturer at the London School of Dermatology. A personal friend writes: "Hannay's death will be keenly felt both by his patients past and present and by the professional colleagues with whom he had come into contact, for he was courteous, unselfish, and reliable, and always displayed the highest sense of duty."

FREDERICK JOHN PALEY, M.R.C.S. ENG., M.D. LOND.

THE medical profession in Hove and Brighton sustained a severe loss on Nov. 12th by the death from heart failure, following an operation for appendicitis, of Dr. F. J. Paley, surgeon to the Sussex County Hospital. He had been in practice in the twin towns for 34 years, and during that time rendered devoted services to many Catholic institutions, not only there but in the county of Sussex as well. Dr. Paley was born at Peterborough in 1859. He was educated at the Oratory School, Edgbaston, Birmingham, and he began his medical education at University College, London. He took the M.B. degree in 1883, and became L.R.C.P. and M.R.C.S. Eng. in the same year. For a short time he practised at Boscombe, Bournemouth, but afterwards went to Sussex as resident medical officer of St. George's Retreat, Burgess Hill. He proceeded to Brighton as house surgeon at the Royal Sussex County Hospital and afterwards held a number of other appointments. During this time he became recognised as a surgeon of unusual ability, and commencing in private practice in 1900 he had the honour that year of being elected President of the Brighton, Hove, and Sussex Medico-Chirurgical Society. Since 1907 he has been one of the hon. surgeons to the Royal Sussex County Hospital, Brighton. His personal qualities were most engaging. Striking alike physically and mentally, he was one to whom his colleagues could look for well-considered advice and guidance. During the war Dr. Paley was Commandant of the 2nd Eastern General Hospital at Brighton, holding the rank of lieutenant-colonel in the R.A.M.C. (T.F.).

Sincere sympathy will be extended to Mrs. Paley and other members of the family in their bereavement.

THE LATE DR. G. E. HASLIP.

IT has been pointed out to us that the wording of the obituary notice of Dr. G. E. Haslip in THE LANCET last week suggested that he was only chairman of the Medical Insurance Agency for the last two years of his life. Dr. Haslip was elected chairman of the Agency in succession to the late Dr. Henry Radcliffe Crocker in 1909, and during the whole period, including the last two years of his life, during much of which he was a serious invalid, he presided over the meetings. The cause of all the less prosperous members of the medical profession always lay near his heart, and his work as chairman of the M.I.A. for 15 years had its main stimulus in the fact that the prime object of the Agency was to earn for medical charities pecuniary support. During his chairmanship the Agency was able to devote to medical charities sums totalling over £12,250.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDING NOV. 15TH, 1924.

Notifications.—The following cases of infectious disease were notified during the week—namely: Small-pox, 51; scarlet fever, 2184; diphtheria, 1172; enteric fever, 69; pneumonia, 1013; puerperal fever, 55; cerebro-spinal fever, 6; acute poliomyelitis, 21; acute polio-encephalitis, 1; encephalitis lethargica, 31; dysentery, 10; ophthalmia neonatorum, 100. There were no cases of cholera, plague, or typhus fever notified during the week.

Deaths.—In the aggregate of great towns, including London, there were 4 deaths from enteric fever, none from small-pox, 10 from scarlet fever, 45 from diphtheria, 35 from measles, 60 from influenza. In London itself the number of deaths from diphtheria was 17 and from influenza 15.

INSTITUTION OF SANITARY ENGINEERS. — A sessional meeting will be held at 7.30 P.M. on Wednesday, Dec. 3rd, at Caxton Hall, Westminster, S.W., at which a paper will be read by Mr. H. Alfred Roechling dealing with House Drainage, with Special Reference to the Intercepting Trap. A discussion will follow.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The General Board of Studies have appointed Mr. W. A. F. Balfour Browne (Caius) as University Lecturer in Zoology.—The Diploma in Medical Radiology and Electrology is to be granted to Dr. J. M. W. Morison, of Glasgow University.

UNIVERSITY OF LONDON.—A meeting of the Senate was held on Nov. 19th, Prof. E. A. Gardner, the Vice-Chancellor, being in the chair.—Mr. F. L. Hopwood, D.Sc. Lond., was appointed to the University Chair of Physics tenable at St. Bartholomew's Hospital Medical College. He had a distinguished career as a student at University and King's Colleges, London. He was demonstrator in physics at the Royal College of Science from 1904–06, and since 1906 at St. Bartholomew's Hospital Medical College. He has also held teaching posts at Bedford College and University College among other institutions. During the war he was for three years a research physicist to the Admiralty and received the thanks of the Admiralty Submarine Department and an award of £1000 for his inventions used by the Service.—The title of Reader in Human Embryology in the University was conferred on Mr. R. J. Gladstone, M.D., C.M. Aberd., F.R.C.S. Eng., in respect of the post held by him at King's College. In 1895 he was appointed junior, and in 1896 senior demonstrator of anatomy at Middlesex Hospital Medical School, and from 1909–13 he was lecturer on embryology at the same school. Since 1913 he has been lecturer and senior demonstrator in anatomy at King's College. He has published a large number of papers in the *Journal of Anatomy and Physiology*, the *Journal of Anatomy*, and other scientific periodicals.—It was resolved to institute two University travelling scholarships, open to internal and external graduates in all faculties, each of the value of £275 per annum, and three University post-graduate studentships (open to internal and external graduates in the faculties of Theology, Arts, Laws, Music, and Engineering) of the value of £150 per annum.—Mr. G. V. Anrep, D.Sc., was awarded the William Julius Mickle Fellowship for 1925 in respect of the work which he has carried out during the past five years in experimental physiology. The Fellowship is of the value of £200.—Dr. H. L. Eason was appointed to represent the University on the General Medical Council.

At the recent examination for the *Diploma in Psychological Medicine* the following candidates satisfied the examiners: With special knowledge of psychiatry: William McWilliam and Thomas P. Rees. With special knowledge of mental deficiency: Geoffrey F. Cobb and Anne Fairweather.

Entrance Scholarships and Exhibitions in Medicine, 1925.—Thirteen medical entrance scholarships and exhibitions of an aggregate total value of £1473, tenable in the Faculty of Medical Sciences of University College and King's College, and in the medical schools of King's College Hospital, University College Hospital, the London Hospital, and the London (Royal Free Hospital) School of Medicine for Women, will be offered. The examinations for medical scholarships will commence on April 21st and June 30th, 1925. Full particulars and entry forms may be obtained from the Secretary of the Board, Mr. S. C. Ranner, M.A., the Medical School, King's College Hospital, Denmark Hill, London, S.E. 5.

A public lecture by Sir Gregory Foster on "The University of London, What It Is and What It May Be" has been arranged by the XXth Century Society of London Graduates. It will be delivered at the London School of Economics and Political Science, Kingsway, on Dec. 4th at 8.15 P.M. Admission is free.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—A. J. Fraser, Guy's Hosp.; L. Freeman, St. Thomas's Hosp.; C. H. Mason, St. Mary's Hosp.; K. Samaan, Manchester; Y. S. Wan, St. Bart.'s Hosp.; and H. Winstanley, Liverpool.

Medicine.—A. J. M. Davies, St. Mary's Hosp.; M. Murad, Birmingham; and Y. S. Wan, St. Bart.'s Hosp.

Forensic Medicine.—S. W. Cuff, St. Bart.'s Hosp.; L. Freeman, St. Thomas's Hosp.; Y. S. Wan, St. Bart.'s Hosp.; and D. Winstanley, Liverpool.

Midwifery.—C. L. Copeland, Univ. Coll. Hosp.; B. Davis, Bristol; J. Dywien, Guy's Hosp.; L. Freeman, St. Thomas's Hosp.; A. Kaplan and C. H. Mason, St. Mary's Hosp.; C. C. Taffs, St. Thomas's Hosp.; and Y. S. Wan, St. Bart.'s Hosp.

The Diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery: A. J. Fraser and Y. S. Wan.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The annual meeting of the Fellows and Members of the College took place at Lincoln's Inn-fields on Nov. 20th. Some 70 persons were present when Sir John Bland-Sutton took his seat. Among the questions put by those present, Mr. C. E. Wallis asked whether the Council of the College had received any complaint with regard to advertising, direct or oblique, on the part of Fellows or Members, and if it was proposed to deal with the offenders under Rule 16 of the College. The view of the President was that in such cases the lead of the General Medical Council, which had the power to call witnesses, should be followed. Dr. W. E. A. Worley then moved: "That this thirty-sixth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation upon the Council of the College; moreover, this meeting requests that the President shall hereupon reply in detail to the two resolutions passed at the last annual meeting, and that he shall also state whether his Council has seriously considered any means whatever whereby the collective views of Members of the College may be ascertained on matters affecting their interests as Members." He said that a feeling of dissatisfaction justly existed amongst the Members at their exclusion from participation in College affairs. Dr. M. I. Finucane seconded the motion, stating that the experience of the Members was worth cultivating in such matters as the medical curriculum and the standards of examination, while the appointment by the Council of the representative of the College on the General Medical Council was a further illustration of an undemocratic system. Dr. Redmond Roche, President of the Society of Members, supported the motion, and made special reference to the protest of Thomas Wakley against the undemocratic powers of the Council of the College in his day. The President declared that the resolution had been carried unanimously, and the meeting closed after a brief discussion as to the membership of the Society of Members, during which Dr. Roche volunteered to furnish the numbers on the spot.

ROYAL DENTAL HOSPITAL DINNER AND "AT HOME."—This hospital held its annual "At home" on Nov. 22nd, which was attended by a large number of past students as well as visitors from other hospitals. Many clinical cases of dental interest had been collected. Among them were rare conditions, such as leontiasis ossea, osteitis fibrosa, macroglossia, odontomes of various kinds, and angioma of the palate. Orthodontics was represented by children showing almost every variety of irregularity of the teeth. Completed cases were presented, which afforded a striking contrast to the original condition as shown in the models and exemplified the successful character of the treatment. The prosthetic side of dentistry was represented by a number of patients wearing dentures made by pupils. The work showed a high standard of excellence which was the more striking since the cases were all of unusual difficulty. Patients who had been trained in the speech clinic attached to the hospital were also present. Pathological, microscopical, and radiological exhibits were also shown. The dinner was held at the Trocadero in the evening of the same day and was presided over by Mr. Warwick James, a former member of the staff. Mr. James, in proposing the toast of "The Hospital," sketched its career from its foundation in Soho-square in 1858, to its present site in Leicester-square. He said that two dentists who had received their education in the hospital in Soho-square were still alive, Sir Charles Tomes and Mr. Howard Mummery. The hospital had produced many eminent dentists and there was scarcely a dental hospital in England which had not a "Royal" man on its staff. Mr. Stobie, the Dean, in his reply, said that the hospital now had 202 students. A new children's department had been equipped, and a legacy by the late Frederick Lonnon had been used to found a bursary which would be awarded on the subject of the treatment of dental disease in children. A new radiological department had been made and a large sports ground acquired which was already in use. He foreshadowed a more extensive development of post-graduate teaching. Mr. Coysh responded for the past students, and Mr. Cohn, the Saunders Scholar, for the present students. "The Health of the Visitors" was proposed by Mr. N. Grellier and responded to by Sir John Bland-Sutton, who said that when he commenced teaching anatomy at the Middlesex Hospital there were a good many dental students. He soon found that the descriptions of the teeth in the text-books on anatomy was belated and he obtained permission to attend the lectures at the Royal Dental Hospital, then in Soho-square. The lecturer in that subject was Sir Charles Tomes and from that time dated his interest in odontology. At first the hospital was started to alleviate pain of dental origin; but it was soon realised by some of those connected with the hospital that dental surgery must come to be regarded as a branch of general surgery, since it was based on anatomy, physiology,

and pathology. A feeling began to grow up which had increased since the war, that the dental surgeon should not only look after the teeth, but should take over the treatment of infections and injuries of the jaws, just as the orthopædic surgeon had taken over the treatment of diseases of bone. He thought that the time was coming when general hospitals, especially those engaged in teaching, would have to provide beds for the treatment of dental disease, and that the dental surgeon would be on the same footing as the ophthalmic surgeon, orthopædic surgeon, and laryngologist. It was said that the most indestructible part of the body was the bones and teeth; recently, at Charing Cross the bones of a mammoth had been found, and he himself had found the teeth of the mammoth in a tunnel being bored under the Thames. Yet in the living man the teeth and bones were easily destroyed by infective processes. It was found in the war that a bone could be reduced to the consistency of cheese as a result of infection following gunshot wounds. There was still much to be learned about the development of bone, and they did not know the forces which caused the eruption and loss of the teeth. He was glad to see the position held by odontology at the present time and that it continued to attract so many gifted minds.

MEDICO-LEGAL SOCIETY.—The annual dinner will be held at the Holborn Restaurant, London, W.C., on Friday, Dec. 12th, at 7 for 7.15 P.M., when Lord Justice Atkin, the President of the society, will preside. The price of the dinner is 14*s.* 6*d.*, exclusive of wines.

SOCIETY FOR CONSTRUCTIVE BIRTH CONTROL AND RACIAL PROGRESS.—A meeting will be held on Dec. 10th, at 8 P.M., at Essex Hall, Essex-street, Strand, when Miss Eleanor F. Rathbone will lecture on Family Endowment and Birth Control. Mrs. Marie Stopes, D.Sc., in the chair.

SCOTTISH WOMEN'S HOSPITALS' ASSOCIATION OF THE ROYAL FREE HOSPITAL.—The annual meeting of this association will be held at the hospital, Gray's Inn-road, W.C., to-day, Saturday, Nov. 29th, at 3 P.M. Lady Ossulston will be in the chair.

WE are informed by Messrs. Allen and Hanburys, Ltd., and The British Drug Houses, Ltd., that Dr. S. W. F. Underhill, now senior demonstrator of physiology at St. Bartholomew's Hospital, has accepted an appointment as research physiologist in connexion with the production of "A.B." Brand Insulin.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—The Finlayson memorial lectures were delivered by Sir Leonard Rogers, F.R.S., in the Faculty Hall, Glasgow, on Nov. 20th and 24th. The subject of the lectures was "Pathological Evidence Bearing on Disease Incidence in Calcutta," the first lecture being "Disease in General" and the second "Tumours, Simple and Malignant."

THE LATE SIR MALCOLM MORRIS.—The consulting and active staff of St. John's Hospital, Leicester-square, together with the staff of lecturers at the London School of Dermatology attached, have subscribed for a lecture-desk, with a suitable inscription-plate, which has been placed in the theatre in memory of their friend and colleague, Sir Malcolm Morris, who was a member of the consulting staff at the time of his death in February last.

ELIZABETH GARRETT ANDERSON HOSPITAL.—In support of the Extension Appeal Fund for this hospital, Lady Plender, the treasurer, has received a letter from Queen Alexandra, wishing success to the hospital, and continuing: "Queen Alexandra remembers with pleasure that she laid the foundation-stone of the present building, and Her Majesty hopes that all who have at heart the welfare of women and children will help the Extension Appeal Fund, and render service of some kind to forward the success of the enlargement of the hospital of which she is patron."

DONATIONS AND BEQUESTS.—Mr. Tom Hards Wesley, Bournemouth, gave his residuary property, amounting to about £28,000, as to one-third to Dr. Barnardo's Homes, one-fourth to Lord Mayor Treloar's Cripples' Home and College Alton, one-fourth to St. Dunstan's Hostel for Blinded Sailors and Soldiers, one-sixth to the Brompton Hospital for Cancer.—Mr. E. F. Callister, of Birkenhead, has given £2000 to the Liverpool Royal Infirmary for the new equipment in the X ray department, and the same institution has received this year's final contribution of £1600 from the Liverpool Hospital Saturday and Sunday Fund; and from the same Fund the Liverpool Maternity Hospital has received £240 and the Royal Liverpool Children's Infirmary £540.—Miss Dorothea Vanderstegen, of Caversham, Oxon., left £1000 to the Children's Hospital, Paddington Green, London, W., for an "Erle Cot" in memory of Henry Percival Erle and Grace Ellen Erle, and £500 to Dr. Barnardo's Homes.—Miss Emma Rundle, St. Austell, Cornwall, left the residue of her estate, amounting to about £1700, to the National Institution for the Blind.—Miss Ethel Maitland, Ryde, Isle of Wight, left £500 each to Dr. Barnardo's Homes, to the Portsmouth and South Hants Eye and Ear Infirmary, and to the Treloar Home for Crippled Children.—Mr. Archibald Davies, naval architect, of Aigburgh, Liverpool, left £15,400. Subject to a few inconsiderable legacies he left practically the whole of his estate to the Stanley Hospital, Liverpool.—By the will of the late Mrs. M. E. Salting the testatrix left among other bequests £2000 each to the Middlesex Hospital, St. Mary's Hospital, Paddington, and the Cancer Hospital, Fulham-road; £1000 each to the Brompton Hospital for Consumption and King's College Hospital.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Tuesday, Dec. 2nd.

ORTHOPÆDICS: at 8.30 P.M.
Discussion:
On Diagnosis and Treatment of Affections of the Sacro-Iliac Joint, to be opened by Mr. P. Jenner Verrall.

PATHOLOGY: at 8.30 P.M.
Laboratory Meeting at the London Hospital, E.
Prof. W. Bulloch: Disinfection of Catgut.
Dr. G. T. Western: Routine Diagnosis of Gonorrhœa by Cultures.
Dr. P. Fildes: Preparation of Serum for Culture Media.
Prof. H. E. Roaf: Analysis of Colour Blindness.
Dr. W. A. M. Smart: Nomography Applied to Medicine.
Prof. W. Wright: Pathological Specimens.
Mr. F. A. Hocking: Inaccuracy of Syringes.
Prof. H. M. Turnbull and Dr. Dorothy S. Russell: Pathological Specimens.

Wednesday, Dec. 3rd.

SURGERY: at 8.30 P.M.
Discussion:
On the Diagnosis of Malignant Disease of the Thyroid Gland, to be opened by Mr. James Berry.
The following have agreed to speak: Mr. Wilfred Trotter, Mr. A. J. Walton, Mr. T. P. Dunhill, Dr. G. W. Nicholson, Sir Charters Symonds.
There will be a demonstration of specimens and microscopic slides, arranged by Mr. Berry and Dr. Williamson, during the afternoon, from 3 P.M.

LARYNGOLOGY.
Members of this Section are specially invited to attend this meeting.

Thursday, Dec. 4th.

OBSTETRICS AND GYNÆCOLOGY: at 8 P.M.
Specimen:
Mr. Sidney Forsdike: Vesical Calculus forming on Foreign Body.
Papers:
Mr. Arthur Crook: The Incidence of Glycosuria during Pregnancy.
Prof. A. Louise McIlroy: The Treatment of Shock and the Relative Loss of Heat and Loss of Weight in the Newborn.

DERMATOLOGY, LARYNGOLOGY, ODONTOLOGY } at 8 P.M.
Joint Discussion on
Focal Sepsis in Relation to Diseases of the Skin.
Openers:
Mr. J. F. O'Malley (for the Section of Laryngology).
Dr. H. W. Barber (for the Section of Dermatology).
Sir Kenneth Goadby (for the Section of Odontology).

Friday, Dec. 5th.

LARYNGOLOGY: at 5 P.M. (Cases at 4 P.M.)
Cases and Specimens will be shown by Mr. A. J. Wright, Dr. Dan McKenzie, Sir James Dundas-Grant, Mr. F. J. Cleminson, Sir StClair Thomson, Mr. Howarth, and others.

ANÆSTHETICS.
The December meeting of this Section is postponed to Dec. 12th.

Saturday, Dec. 6th.

OTOLOGY: at 10 A.M. (Cases at 9.15 A.M.)
Cases and Specimens will be shown by Mr. Sydney Scott, Dr. Dan McKenzie, Mr. Cleminson, Mr. Just, and others.

MANCHESTER MEDICAL SOCIETY.
WEDNESDAY, Dec. 3rd.—4.30 P.M. (at the University of Manchester). Dr. E. B. Leech, Dr. D. Dougal, and Mr. H. Platt: Discussion on Chronic Backache in Women.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.

MONDAY, Dec. 1st, to SATURDAY, Dec. 6th.—WEST LECTURE HALL, Royal Society of Medicine, 1, Wimpole-street, W. Lecture arranged by the Fellowship of Medicine, and open to all members of the profession. At 5.30 P.M., Monday, Dec. 1st, Mr. Herbert J. Paterson: Cancer of the Stomach.—ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-road, S.E. Special Course in Medicine, Surgery, and Gynæcology. Lecture-Demonstrations in the Wards and Out-patient Departments. Third week.—INFANTS HOSPITAL, Vincent-square, Westminster, S.W. Special Course in Diseases of Infants consisting of Clinical Demonstrations, "Round Table" consultations, lectures, &c. First week.—HOSPITAL FOR DISEASES OF THE SKIN, Blackfriars. Course in Dermatology, consisting of instruction in Out-petient Department every afternoon at 2.30, and a Venereal Clinic Tuesday and Friday. First week.

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.

MONDAY, Dec. 1st.—12 noon, Mr. Simmonds: Applied Anatomy. 2 P.M., Mr. Addison: Surgical Wards. 2 P.M., Mr. Bishop Harman: Eye Dept.

TUESDAY.—11 A.M., Mr. Endean: Venereal Diseases. 12 noon, Dr. Burrell: Chest Cases. 2 P.M., Mr. Sinclair: Surgical Out-patients.

WEDNESDAY.—12.15 P.M., Dr. Burnford: Medical Pathology. 2 P.M., Dr. Owen: Medical Out-patients. 2.30 P.M., Mr. Donald Armour: Surgical Wards.

THURSDAY.—11 A.M., Mr. Simson: Gynæcological Wards. 12 noon, Dr. Scott Pinchin: Diseases of the Heart. 4.15 P.M., Lecture, Dr. Pernet: Psoriasis.

FRIDAY.—11 A.M., Dr. McDougal: Electrical Dept. 12 noon, Surgical Registrar: Surgical Pathology. 2 P.M., Mr. Vlasto: Throat, Nose, and Ear Dept.

SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.

Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

TUESDAY, Dec. 2nd.—4.30 P.M., Mr. Norman Fleming: Some Points in Medical Ophthalmology.

FRIDAY.—4.30 P.M., Dr. S. Cochrane Shanks: Gastric Ulcer from an X Ray Standpoint.

Daily: In-patient and Out-patient Clinics in General and Special Departments, Operations, &c.

ST. JOHN'S HOSPITAL, 49, Leicester-square, W.C.

TUESDAY, Dec. 2nd.—5 P.M., Dr. Haldin Davis: Acne Rosacea.

THURSDAY.—5 P.M., Dr. J. H. Sequeira: Tuberculosis Cutis.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY, Dec. 4th.—4 P.M., Dr. A. M. H. Gray: Tuberculous Lesions of the Skin in Children.

ROYAL DENTAL HOSPITAL OF LONDON POST-GRADUATE LECTURES.

WEDNESDAY, Dec. 3rd.—5 P.M., Mr. A. T. Pitts: Post-normal Occlusion.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.

TUESDAY, Dec. 2nd.—4.15 P.M., Dr. J. Wharton: Ophthalmic Cases.

FRIDAY.—4.15 P.M., Dr. D. E. Core: Early Mental Disease, its Differentiation and Prognosis.

UNIVERSITY OF SHEFFIELD POST-GRADUATE LECTURES. (At 3.30 P.M.)

TUESDAY, Dec. 2nd.—(At the Jessop Hospital.) Prof. Phillips: Some Obstetric Difficulties.

FRIDAY.—(At the Royal Hospital.) Dr. Wilkinson: The Diagnosis and Treatment of Obstructive Dyspnœa.

ST. ANDREWS INSTITUTE FOR CLINICAL RESEARCH.

TUESDAY, Dec. 2nd.—4 P.M., Dr. Hynd: The Chemical Constitution of the Urine and Blood in Health and Disease.

ROYAL INSTITUTE OF PUBLIC HEALTH, Russell-sq., W.C. (Course of Lectures on the Health of the Commonwealth.)

WEDNESDAY, Dec. 3rd.—4 P.M., Dr. C. K. Millard: The Disposal of the Dead.

CHADWICK PUBLIC LECTURES.

WEDNESDAY, Dec. 3rd.—5.15 P.M. (at the Medical Society's Rooms, 11, Chandos-street, W.). Dr. W. W. Feldman: Post-Child Physiology and Hygiene.

THE PEOPLE'S LEAGUE OF HEALTH. Course of Lectures on the Mind and What We Ought to Know About It. (At the Medical Society of London, 11, Chandos-street, W.)

MONDAY, Dec. 1st.—6 P.M., Dr. W. A. Potts: Crime and Delinquency.

Appointments.

DALEY, W. A., M.D., B.S. Lond., D.P.H. Camb., has been appointed Medical Officer of Health for Hull.

DAVIES, W. J., M.R.C.S., L.R.C.P. Lond., Certifying Surgeon under the Factory and Workshop Acts for Aberayron, Cardiganshire.

FINDLAY, J., M.D. Edin., Medical Referee under the Workmen's Compensation Act for the Districts of the Blackpool and Kirkham County Courts.

THOMSON, Sir STCLAIR, M.D. Lond., F.R.C.S. Eng., F.R.C.P. Lond., Emeritus Professor of Laryngology, King's College, and Consulting Surgeon for Diseases of the Throat and Nose, King's College Hospital.

WILSON, EDRIC F., F.R.C.S. Eng., Assistant Surgeon, Royal Albert Hospital, Devonport.

Queen Charlotte's Maternity Hospital: CARGILL, R. E. D. B.M., B.Ch. Oxf., Senior Resident Medical Officer; SAUNDERS, ROY M., M.B., Ch.B. Edin., and STOREY, A. G., M.B., B.Ch. Camb., Assistant Resident Medical Officers.

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Chelmsford Administrative County of Essex.—Two Asst. County M.O.H.'s. Each £660.

Croydon General Hospital.—Hon. Orthop. S.

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East London Hospital for Children and Dispensary for Women, Shadwell, E.—H.S. at rate of £125.

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Gordon Hospital, Vauxhall Bridge-road, S.W.—Res. H.S. at rate of £75.

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Manchester Royal Infirmary.—Hon. Asst. Radiologist. Also R.M.O. £200.

Miller General Hospital, Greenwich-road, S.E.—Part-time Asst. to Out-patient Dept. £150.

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The Chief Inspector of Factories, Home Office, London, S.W., announces the following vacant appointments: Coalville, Leicester; Kirriemuir, Forfar.

Births, Marriages, and Deaths.

BIRTHS.

COURTNEY.—On Nov. 17th, the wife of J. M. Courtney, M.R.C.S., L.R.C.P., of Castle Hill House, Lynton, North Devon, of a son.
MULLINS.—On Nov. 18th, at New-street, Wells, Somerset, the wife of Dr. G. E. Mullins, of a daughter.
SHIPTON.—On Nov. 18th, at Buxton, the wife of William Shipton, M.D., of a daughter.

MARRIAGES.

MOORE—O'CONNOR.—On Nov. 13th, at St. James's Church, Spanish-place, William A. Moore, M.B., B.A., Freshford, Co. Kilkenny, Ireland, to Mary O'Connor, M.B., B.D.S., Woburn-place, London.

DEATHS.

COUMBE.—On Nov. 10th, at Tunbridge Wells, John Batten Coumbe, F.R.C.S., aged 71.
DIXON.—On Nov. 17th, at Newlands, Sheringham, Thomas Arthur Dixon, M.D., Lieut.-Colonel, late R.A.M.C., aged 71.
GLENISTER.—On Nov. 17th, at Fairlight, Sussex, Wilfrid Montague Glenister, M.R.C.S., L.R.C.P., of "The Lindalls," Amberley.
LINDSEY.—At Sunny Bank British Hospital, Cannes, S. France, on the 19th inst., Mark Basil Lindsey, late of "Beaumont," Portman Crescent, Bournemouth, M.R.C.S., L.R.C.P., Capt. R.A.M.C., 1915–19.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

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Notes, Comments, and Abstracts.

VISION IN THE AIR SERVICES.

BY KENNETH R. SMITH, M.D., B.S. LOND.,
LATE R.A.F. MEDICAL SERVICE.

BINOCULAR vision is necessary for flying, and this necessity has compelled the Air Services in this and other countries to pay great attention to the subject. The pilot has to estimate his distance from the ground when he wants to land, and has no help from perspective, for the gap between his moving plane and the earth or sea beneath it has no series of objects leading from one to the other as along a road, and his estimate depends entirely on the sense of space obtained by vision with both eyes together. If this fails him, he is liable to "flatten out" too soon or too late: the former makes his plane drop to the ground instead of gliding on to it, and the latter may drive the nose of the plane forcibly to earth with disastrous results.

Necessity of Binocular Vision.

Bad landings from errors of visual judgment appear to be the universal experience in all countries where there is flying. The United States Air Service Medical Manual mentions defect of visual judgment as one of the greatest causes of exclusion from the Service, and that this is due to a failure in binocular vision is certain. Anyone interested should be thoroughly convinced of his inability to estimate distance with one eye, and for this purpose a small apparatus, made of wire and resembling a street lamp in shape, is kept at the Central Medical Board R.A.F., so that every medical officer may try for himself and know from his own observation that he cannot estimate distance with one eye alone. A piece of wire bent into two rings thus, O O, serves equally well; it should be held up to the light and looked at with one eye while the other is firmly closed. If the small end is further away from the eye it may appear to come nearer, as if the little apparatus was turned inside out; but, in any case, there is no visual certainty of the relative position of the two rings until the other eye is opened, when it is impossible to deceive oneself as to their relative position, and it becomes easy to understand the confidence which normal binocular vision gives to a pilot when he is landing, and the uncertainty in the process when he has the vision of only one eye to guide him.

There is nothing newly discovered in this; that many people have a "master eye" is a familiar fact, and if the master eye happens to be the left one it has been found inconvenient for shooting, and to this extent it has been regarded as a disability. The needs of flying have demonstrated that the disability, which a habit of using the vision of one eye only involves, is of far greater importance—that it destroys the visual judgment which is essential to the man who flies and is needed in the ordinary affairs of daily life, especially to the man who drives a car or who strives for excellence in ball games, but also to the factory hand and whenever there is visual control in action. A liability to loss of visual judgment from monocular vision may serve as a definition of this defect.

Examination of the Eyes.

The following is an account of the routine eye examination in the R.A.F.:—

The vision of each eye is tested in the usual way with test types at six metres, and the examination for errors of refraction is carried out. Myopia is considered an objection, but the acceptance of a plus lens of low power is favourably regarded. Colour vision is also investigated.

Four tests are mainly relied on in reference to the question of normal binocular vision:—

(1) *Test for Power of Convergence.*

Hold a pencil in front of the patient about 12 inches from his eyes, with the point on a level with the root of the nose. Tell him to look at the point, and then move it steadily towards him and observe what happens to his eyes as it approaches them.

(*a*) Both eyes may converge, "fixing" the point of the pencil until it is within an inch or two from the root of the nose. This shows that the power of convergence is very good, and the result is recorded as V.G. under the heading *convergence*, and a note is made of the distance of the point of the pencil from the eyes at the termination of the test.

(*b*) As the pencil point approaches one eye may cease to turn inwards to "fix" it, and may even wander outwards. The distance of the point of the pencil from the eyes when this occurs is noted under the same heading, thus: V.G., inside 2 in.; G., from 2 to 3 in.; Fair, from 3 to 4 in.; Poor, outside 4 in.

(*c*) Both eyes may fail to keep up fixation. The patient may even resist by throwing back his head, or/and complain either that "it hurts him to follow the pencil" or that he "sees double" when the pencil is nearer his eyes than 10 inches. *In such cases convergence is defective.*

(2) *Cover Test.*

Hold a pencil in front of the patient and ask him to look at the point of it as before. Cover one eye for a few seconds, and then uncover and observe whether the eye moves as it is uncovered.

(*a*) There may be no movement; both eyes may remain "fixed" on the point of the pencil whether one eye is covered or not. This is the normal condition.

(*b*) There may be movement inwards or outwards on uncovering. The eye which has been covered has not remained "fixed" on the point of the pencil and moves to regain its position when the cover is taken away. This failure to remain "fixed" is described as latent divergence or latent convergence, and the recovery from it may be rapid, sluggish, or slow, and it may be preceded by an observable pause or lag. Movement indicates defect of ocular muscle balance, rapid recovery shows that it is slight, delay indicates greater defect.

(*c*) Both eyes may move on uncovering. The one which was covered "fixes" the point of the pencil, and the other moves away and then regains its position. This has been called "refixation," and indicates that the eye which was covered was a "master eye."

(3) *The Bishop Harman Diaphragm Test.*

With the instrument set for the measured distance between the pupils, and the letters A B C D E F G on the card, it will be found, approximately, (1) that with the aperture fully open all the letters except the two outside ones are seen by both eyes; that as the aperture is lessened, (2) at 15 the letters A B C D E are seen by the right eye and C D E F G by the left eye, so that the three letters C D E are seen by both eyes; (3) at 5 this number is reduced to one, the D only is seen by both eyes—that is, the right eye sees A B C D and the left eye sees D E F G; (4) at zero half of the D is seen with one eye and half of it with the other, *no part of the set is seen with both eyes.*

The patient takes the instrument and is told to look through the aperture at the letters, to direct his gaze to the central one, and to report at once if anything happens. The aperture is then steadily lessened. The index may arrive at zero without anything happening—that is, the subject still sees all the letters in their true position as at first; this is evidence of good ocular muscle balance, for he is seeing half of the set of letters with his right eye and the other half with the left eye, and the eyes are maintaining their position as truly as when the set was seen by both eyes.

Or the patient may report that something is happening before the index arrives at zero—for example, when it points to 5 he may say (*a*) that he only sees A B C D; this is evidence of "neglect" in the left eye, for he sees only the letters then visible to the right eye. (*b*) Or he may say that the letters have divided into two sets, A B C D on one side and D E F G on the other, with a dark line between them; this is evidence that one eye has turned outwards (exophoria), and as D is seen in each set of letters, of diplopia. (*c*) Or he may say that the middle letters crowd together and overlap one another, indicating that the eyes have turned inwards (esophoria). (*d*) Or that the letters on one side have taken a higher or a lower level than those on the other side (hyperphoria or hypophoria).

The aperture can be lessened below the zero mark on the scale, so that the middle letter is not seen by either eye, and the edge of the shutter may be seen as a black line in its place; if, when this occurs, the other letters maintain their position as at first, a perfect condition of muscle balance is indicated.

On the other hand, if at any point the appearance of the letters is altered as specified in the paragraphs (*a*), (*b*), (*c*), and (*d*), this indicates that at this point binocular single vision is just breaking down. If this occurs at any point over 3 on the scale defect is indicated.

Subsequent tests after a period of eye-training serve to show whether improvement has taken place, and, if so, to what extent.

The Bishop Harman diaphragm test thus serves to show: (1) perfect binocular single vision, (2) its liability to break down, (3) the direction in which the eyes move when the breakdown occurs, (4) the neglect or double vision which attends this movement.

(4) *The Red-Green Test.*

This test is based on the fact that red glass of suitable density will not allow green light to pass through it, and vice versa, so that spectacles in which red glass covers the right eye, and green glass covers the left one, deprive the right eye of the power of seeing green and the left eye of seeing red. Such spectacles are used in this test, and the patient wearing them is requested to look at an illuminated slot in a box 20 feet away from him. This slot, 5 in. by ¼ in., is vertical and is glazed for half its length with red glass and for the other half with green glass. A similar slot placed horizontally can be used if desired. The patient equipped with the spectacles sees the red half of the slot with one eye and the green half with the other.

He is asked to describe what he sees and may say:—

1. That he sees two lights, the red and the green, (*a*) in their proper position one above the other—this indicates correct ocular muscle balance. (*b*) That one light is to the right or to the left of the other or that it is displaced upwards or downwards. This indicates loss of ocular muscle balance, exophoria or esophoria, and/or hyperphoria or hypophoria. (*c*) That one of the lights wanders from its original position and back again; this shows a tendency to heterophoria, with some or full power of correction.

2. That he sees two lights at first but that one disappears occasionally; this indicates the presence of a master-eye if it is always the same light which disappears, or of alternating neglect if there are occasional disappearances of one or the other, the red or the green.

3. That he sees "either colour singly, but never the two together."

N.B.—The two colours must be completely separated to constitute evidence of the existence of heterophoria; when they touch one another corner to corner it is noted as a tendency to it only.

Interpretation of Results of Tests.

These four tests are directed mainly to discovering whether there is any lack of perfect coördination in the movements of the eyes. There may be direct evidence of neglect in the Bishop Harman diaphragm test by the disappearance of one-half of the letters, or by the disappearance of the red or the green in red-green test; but what one is trying to discover is (1) whether the subject of the examination always uses both eyes together or (2) whether he sometimes uses both together and at other times uses only one; he may have a habit of using the right eye and neglecting the vision of the left, he then has a master-eye (the right one in this case, but it may be vice versa); or he may have a habit of "alternating neglect," that is, his vision is sometimes binocular and sometimes "one-eyed," but the neglect may be in either eye. The cover test shows just what the neglected eye does when it ceases to have its share of attention, it tends to turn away from the direct line of vision. If, then, the tests show that the condition of ocular muscle balance is normal, that when, without the knowledge of the subject, each eye is acting independently of the other, they keep their direction truly, and show no tendency to wander from it, in or out, up or down, it is a practical certainty that they have no habit of doing so, and that binocular vision is not liable to disturbance but is constant.

On the other hand, with any marked degree of loss of ocular muscle balance, the fact that with one eye directed to an object the other readily turns away from the line of direction, is evidence of its liability to do so, and possibly of a habit of doing so, and double vision would result from it unless there were "neglect." There is no history of double vision, so that loss of ocular muscle balance in these cases with good vision in each eye indicates a liability to monocular vision and the loss of visual judgment essential to the pilot, together with the confidence which attends binocular vision.

HEALTH PROBLEMS IN THE CAMEROONS.

A REPORT for the year 1923 on the Cameroons Province, as administered by the Government of Nigeria under mandate, has been issued recently. For administrative purposes the territory is divided into four divisions—Bamenda, Mamfe, Buea with Kumba, and Victoria. Medical officers are stationed when available at these centres, with a native dispenser attached to each station. It may be said that each of these areas has its localised diseases and sanitary problems. These are but slightly affected by the ex-German hospital and sanitary arrangements, as the areas which have to be served by the stations are very extensive and the bulk of the people not advanced in questions of public health. The natural advantages of the country, it being for the most part of a mountainous nature with a relatively low temperature and good natural drainage and water-supply, counteract many of the evils which would otherwise flourish. In the forest area the soil is mainly clay and natural drainage poor. There is no attempt among the natives to instal any system of soil-disposal other than shallow pits scratched in the jungle close to the village, and with no regard to the source of drinking water, which is generally the nearest stream. It is understood that the "street-system" of villages throughout this area

was the invention of the Germans for political reasons. A description of a typical village may be of service: A wide road, beaten flat by constant traffic, along which the town extends on either side, with as few breaks as possible to avoid separate walls and roofs in construction of the houses; the length of this street is limited only by the number of inhabitants, and forms a tunnel along which ventilation is only possible in the line of the street; the houses, low and dark, built flimsily of wattle and daub, with poorly-thatched roofs, lighted and ventilated, as a rule, only by a low door at front and back; no shade along the road, which may run for three miles through a village of this type; no trenching in front of or behind the houses and clearing of bush behind, so that all refuse and night soil is deposited a few yards from the dwelling. Cultivation is, as a rule, some distance from the village, so that the latter does not obtain the benefit of cleared and clean ground around it. Throughout the area a common source of income appears to be pig-breeding, these animals being neither fed nor penned, and drawing their food from jungle weeds and village garbage, with free access to either. The staple food of the people is the bulb of the "coco-yam" arum lily, which is a bulky and perishable article of small nutritive value. It is, however, fairly easy of cultivation. Around the food question revolves the vital and vicious circle of infant mortality. This depends on the well-being of the expectant mother, whose status appears to be low in the Cameroons, where all the manual labour of the farm and the house falls to her share. The people themselves are most anxious to seek treatment for their children, who come to the local dispensary in large numbers for medicine. On the other hand, the great majority of the people appear to be chronically underfed, and women overworked while young and neglected when old; the staple diet is inadequate for young children and the sick, who fall an easy prey to such complaints as ulcer, skin diseases, and intestinal parasites.

In Bamenda the country enjoys great assets in being well drained, with a temperate climate, and in possessing good food supplies. Large quantities of potatoes, introduced by the Germans, are grown by the natives for their own consumption. The hilly nature of the division has prevented the collection of villages along the main roads, and the settlements are farms where best suited for tillage. The water-supply is abundant and fairly free from contamination, being from mountain streams; and the general type of native sturdy and remarkably free from the chronic ailments that are seen in the forest area drained by the Cross River. The system of plantations around Victoria has hitherto employed large numbers of natives. These men and boys receive free medical treatment in hospitals, of which there is one on every plantation, with native dressers and attendants under the supervision of the medical officer. There have been no widespread epidemics and a remarkable absence of diseases attributable to the nature of the work. Serious cases can be transferred to hospitals at Buea or Victoria directly under the supervision of the medical officer.

Throughout the Cameroons the people have willingly submitted to vaccination and to medical instructions regarding isolation and treatment of infectious cases. A large number of cases of acute broncho-pneumonia occur at "the change of season," from the dry to the wet and vice versâ; the natives themselves attribute this to the effects of the influenza epidemic of 1918. It is probable that the effect of that epidemic will linger for some time, especially in the areas of overcrowding and heaviest rainfall. It is hoped to establish small dressing-stations of the nature of "aid-posts" under the direction of the medical officers and staffed by natives sufficiently trained to use simple remedies, who will advise the local inhabitants in sanitary measures. With improved communications it will assuredly be found that not only will the people be able to seek medical advice more freely, but that the freer exchange of commodities will raise the standard of living and increase the food-supply, with improvement of the health of children. The fact that the birth-rate is low does not appear to be due to venereal disease, few cases of which are seen except in the stations, where they appear to be imported and do not go with a system of general prostitution. Promiscuous relations seem generally due to the inability of the man to pay the dower asked for a girl, who may thereupon decide to live with her "friend" for a period, depending on his whims or means. As such union gives her no claim on the children, the discarded woman has to find another refuge, having no independent means. The practice of holding the children of marriage in bond to the woman's parent until the whole dower is paid has also an adverse effect on the increase of families; and as the man in a position to afford several wives is usually elderly, there are few children in proportion born to him, with the added disadvantage that the offspring of the young and healthy women of a village may be nearly related by blood.

Report of the Director of Medical and Sanitary Services.

The Director's report gives such information as is available in regard to the incidence of certain tropical diseases. No case of sleeping sickness has yet been reported or come under observation in any of the areas where a medical officer is stationed, but tsetse-flies are known to be present, and it is probable that sleeping sickness occurs. Buea and Kumba report 25 cases of tuberculosis, with three deaths, and five cases are recorded in Mamfe. Victoria and Bamenda record no cases. There is no evidence as to what the death-rate may be and no statistics by which increase or decrease can be indicated. It is probably much more prevalent than is shown by the cases recorded. There were 36 cases of ankylostomiasis treated at Victoria, with ten deaths. Buea and Kumba record 37 admissions and two deaths and 48 out-patients, mainly plantation labourers. Mamfe records four cases; Bamenda none. At Victoria ol. chenopodium was employed in the treatment; in Buea, Kumba, and Mamfe thymol was given. Malaria appears more prevalent in Mamfe district and comparatively rare in Bamenda. It is common in Buea and Victoria. Enlarged spleens are commonly met with in children. Various salts of quinine have been used in treatment, mostly administered by the mouth, but sometimes by intra-muscular injection. Total cases, 1271 Africans, 12 Europeans. There was no case of plague. Filaria loa is reported to be very common in the region of the Mungo River in Victoria district, and also in the Mamfe district. The carrier *Chrysops silacea* is present in large numbers. Filaria bancrofti is reported from Mamfe. Total cases, filaria loa 98, filaria bancrofti 26. Leprosy does not appear to be very prevalent. Twenty cases came under observation and treatment in Mamfe, six in Victoria, six in Buea and Kumba, and three in Bamenda. Treatment was exclusively by moogrol, and improvement was noted. Total cases, 35; no deaths recorded. There was an epidemic of small-pox during the first six months of the year. Only a few of the cases occurred in Victoria, and by far the greater number were in Bamenda. Vaccination was freely carried out wherever possible. Total cases, 499; deaths, 102; vaccinations, 13,730, of which 7859 were successful. Syphilis is very prevalent in the southern part of the territory, in the plantations, and on the seaboard. Treatment was by novarsenobillon and by mercury and the iodides. Total cases, primary 91, secondary 93; congenital syphilis reported as fairly common. In Bamenda the medical officer comments on the incidence of recorded cases, being mainly females, occurring as rapid and extensive destruction of the palate without any previous signs of disease, and on an isolated case in which the patient had a healthy child of 10 months. The infection has probably been introduced by the trade routes and by three classes—viz., traders, labourers, and, in the northern part, African troops. Gonorrhœa is very prevalent in Victoria, Buea, and Mamfe, and to a less extent is found in Bamenda. No figures are given as to the number of cases treated. The sources of the spread of this disease are very similar to those of syphilis. As contributory causes of the spread of venereal diseases may be mentioned: (*a*) the high price of wives; (*b*) the transfer of wives from one purchaser to another owing to failure in paying the instalments of the purchase price; (*c*) desertion of wives brought into the country by traders and others; (*d*) unattached women traders; and (*e*) wandering prostitutes. It is hoped, when details come to hand of the Kenya treatment, to organise a campaign against syphilis and yaws. Registration of births and deaths is not compulsory, and no attempt is therefore made to get these statistics. The only registration that is carried out is that of non-native births and deaths. The following table shows the distribution of the population in the different divisions: Bamenda, 187,862; Victoria, 32,627; Mamfe, 61,078; Kumba, 66,155; total, 347,722.

COLMAN'S BATH MUSTARD.

WE are asked by Messrs. J. and J. Colman, of London and Norwich, to state that the bath mustard noticed in our issue of Nov. 1st, p. 944, is the product of their firm incorporating that of Messrs. Keen, Robinson and Co.

Erratum.—On p. 1086 of our last week's issue the death of Dr. Gersuny, of Vienna, was, by a typographic error, stated as the death of Dr. Gersung.

F. W. W.—The annotation in THE LANCET of Sept. 23rd, 1922, on Thermometric Scales in which it was mentioned that Gabriel Daniel Fahrenheit was elected a Fellow of the Royal Society is correct. It is true that in the Record of the Royal Society printed for circulation, it is stated that "in 1724 Gabriel Jean Fahrenheit was elected," but this appears to be a mistake. There is only one Fahrenheit in the list, and his is the well-known name in connexion with the thermometer.